September 20, 1944

NATIONAL PETROLEUM NEWS

TECHNOLOGY DEPT.

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SEP 22 1944

—Official U. S. Navy Photo

WAR BIRDS REFUEL ON TROPICAL AIR STRIP—Beyond the peaceful, tropical scene shown here lie Japanese strongholds, their outer strength shattered by perpetual bombing. Here on this lush Espiritu Santo Island in the New Hebrides, come these U. S. Navy Mitchell Bombers to refuel before taking up the endless and crushing assault again. And as they refuel, sister ships are soaring in for the attack. To this island and hundreds of others like it, there pours in a perpetual stream the high octane gasoline and oil products which perpetuates the assault

Nation's Marketers Reveal Equipment Needs in NPN Survey

This week NPN "wraps up" in one package the results of a nationwide survey which was made to give PAW and the War Production Board an accurate summary of immediate equipment requirements. (See p. 14.) The story this survey tells was written by 1035 executives of that many oil distributing companies, the men who are ready to sign the orders when the material is available.

It verifies the findings of on-the-spot surveys conducted by NPN staff members in the Middle West, the Atlantic Seaboard, and the South Central territories. It proves that the immediate requirements are huge; that the need for release as quickly as possible of certain equipment and material is vital.

This and previous market surveys *(see NPN Aug. 16, p. 19; Aug. 23, p. 15; Aug. 30, p. 17; Sept. 6, p. 18; Sept. 13, p. 14)* give a three-pronged picture to management, manufacturers and governmental agencies concerned as to what the industry is up against.

Warren Platt's First Article From France Starts on Page 4

BUY STILL

MORE BONDS

A Soldier on Guard . . . whether it be on an island in the far flung Pacific or any other theatre of war, Guard Duty still is one of the most serious and most important jobs of a soldier. The lives of soldiers and officers depend on his vigilance.

Morrison Bros. Vent Valves stand on guard over your bulk storage tanks and their precious contents — day and night — through summer and winter — heat and cold — filling or discharging. They guard your equipment against excessive pressure or vacuum.

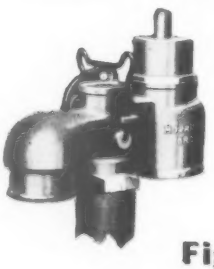


Fig. 148

Oil Is Ammunition — Use It Wisely

MORRISON BROS. COMPANY

OIL EQUIPMENT HEADQUARTERS

DUBUQUE, IOWA

Going Places

LONG before the infamous event at Pearl Harbor, Republic was gaining an impressive reputation as one of the leading and most progressive independent Oil Companies in the world.

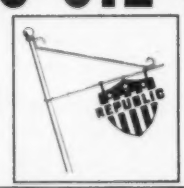
Because of the tremendous demands of the war for top-quality Aviation Fuel we have greatly increased our production, transportation and marketing capacities. The new catalytic cracker at our 100 Octane Aviation Gasoline Plant in Texas City marked the beginning of a new era for our organization.

Post-war Republic will be stronger and greater than ever. Complete plans have been formulated to build more business for our dealers and marketers. In planning your post-war business inquire about tying-up with Republic . . . because . . .

REPUBLIC'S GOING PLACES

REPUBLIC OIL COMPANY

Benedum Trees Building



Pittsburgh, Pennsylvania

Reid Brazell . . .

Heads Dist. 2 Crude Supply Committee

FINDING SUFFICIENT CRUDE and distributing it fairly in order to keep all Dist. 2 refineries operating to the best advantage in fulfilling war contracts and maintaining civilian supplies of all petroleum products at the utmost maximum possible is one of the most—if not the most—difficult problem any industry committee in the Middle West has had to tussle with. Shortage of crude has plagued the industry in Dist. 2 since the beginning of the war for there has constantly been more overall refining capacity in the area than crude to run.

To Reid Brazell, president and general manager of Leonard Refineries at Alma, Mich., and his Crude Oil Supply and Technical subcommittees went the job of searching Mother Hubbard's crude oil cupboard. Compliments from both PAW and the industry at large are frequently heard approving the manner in which this job has been handled. The plan was entirely on a voluntary crude sharing basis between the "haves and have-nots" until last month when some of the contributors to the crude pool asked that the program be put on a monthly PAW directive as protection against anti-trust.

As chairman of the two subcommittees, Mr. Brazell has a lot of oil industry experience upon which to lean for a man of only 39, for he was born at Lamont, Okla., in the famous old Cherokee Strip, now oil country, on July 17, 1905. He comes of Irish-French stock and learned readin', 'ritin' and 'rithmetic in a country grade school, followed by graduation in the Lamont high school and the University of Oklahoma. Majoring in chemistry, he came out with an A.B. degree in 1927, obtained a year's experience as a chemist in Continental Oil Co.'s laboratory in Sapulpa and moved out into the plant to learn various phases of refining.

Early in 1929, he was transferred to the same company's refinery at Artesia, N. M., as assistant superintendent. Leaving in 1930, he went to Canton, O., in the same capacity with Alleghany Arrow Oil Co. By end of the year he was superintendent and in 1934 was made general manager of operation. He joined Leonard at Alma in 1936, and the following year moved up from manager of refinery operations to vice president and general manager. He was elected president last December and continues as general manager.

In addition to being chairman of the crude and technical subcommittees, Mr. Brazell is a member of the refining committee, supply and transportation committee and temporary supply subcommittee.

Like most industry men, however, he is looking forward to a victory let up in the struggle for supplies and a return to peacetime pursuits, which for him includes hobbies like golf and pheasant, partridge and duck hunting. He has always taken a keen interest in civic matters in his home town, like the Community Council, which he organized. He is a past president of Chamber of Commerce, a Rotarian, an Elk and a 32d deg. Mason. He and Miss Ruby Hines of Monett, Mo., were married in 1929. They have one son, James—or "Jim"—10 years old.

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BULLETINS

E. L. HUGHES RESIGNS

CHICAGO—E. L. Hughes, director of distribution and marketing for PAW Dist. 2 since Nov. 25, 1942, has resigned. On Sept. 23 he will resume his place in the industry as president of the Hughes Oil Co., of Chicago. The firm distributes fuel oil in the Midwest. It is understood that Harry W. Nankervis, now PAW Dist. 2 manpower counsellor, will succeed Mr. Hughes in marketing, though Deputy PAW Davies has not yet officially accepted the resignation of the latter.

RECONVERSION IN DIST. 2

CHICAGO—PAW Dist. 2 now has full authority to approve reconversions from coal to fuel oil in the 15 Middle Western states without referring them to Washington, it was disclosed Sept. 19. J. D. Collins, PAW director in charge of Dist. 1 has similar authority, which was granted in a joint letter by Deputy PAW Davies to the district directors.

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NATIONAL PETROLEUM NEWS
NPN
NEWSMAGAZINE FOR OIL MANAGEMENT MEN

Hint October Premium Cut to 105,000 b/d

Measures in Making to Limit Refineries to 25% on Basis of Six-Month Period—Slightly Less in West Coast District

By Herbert A. Yocom
Chief NPN Washington Bureau

WASHINGTON — Measures were in the making this week at PAW which, if taken, will dry up the flow of premium gasoline through service station outlets to a mere trickle of 105,000 b/d during October.

As an inevitable outgrowth, apparently, of the increasing military requirements for tetraethyl lead, PAW was contemplating slashing refinery yields of premium as follows:

In dists. 1, 2, 3 and 4, to an amount equivalent to 25 per cent of the quantity each individual refiner produced in the six-month base period, October, November, December, 1943, and January, February, March, 1944.

Cutback for One Month

In dist. 5, to an amount equivalent to 22½ per cent of the amount each refinery produced in the three-month base period, March, April and May, 1944.

Final decision as to the actual cut had not been made at NPN press time, but the expectation was that the action would come before the week ended and that it would be substantially in accord with what is reported above.

While the effect of such a cutback would be to reduce the quantity of premium available for civilian consumption to only 105,000 b/d, refiners would be permitted to overrun individual quotas by whatever amount of premium they sell to the army and navy. Net result would be to allow refiners to manufacture between 140,000 and 150,000 b/d of premium, compared with a present daily output of 210,000 bbls. and a June output in excess of 400,000 b/d.

PAW's reason for confining cutback to the single month of October is to be found in its hope that the situation with respect to military demand for ethyl fluid will be cleared up at that time by ending of the German war. If not, then it would be an easy matter to extend controls through November and so on.

Because cutback will be imposed only at the refinery level, responsibility for channeling supply to essential users will fall to the industry. It is PAW's attitude, in this connection, that if premium were to be banned at service stations, long-distance over-the-road haulers would find it extremely difficult to get the product, also, that to channel supply so that would be available only at bulk plants would constitute discrimination against service stations, particularly the independents.

Thus, PAW will be preserving the status quo, inasmuch as industry will be carrying on in the same fashion as now, although the reduction in amount of premium available will compound the present distribution difficulties.

According to PAW estimates, the absolute minimum requirements of vehicles that must have premium ranges between 75,000 and 80,000 b/d, which means that the amount available for distribution to other than essential civilian users will approximate only 25,000 to 30,000 b/d.

ODT Withdrawing from 'Gas' Ration Task

NPN News Bureau

WASHINGTON—A part of the commercial motor vehicle gasoline rationing functions now exercised by ODT are in the process of being transferred to OPA, it was announced this week by ODT Director J. Monroe Johnson.

According to transportation agency spokesmen, the transfer is not an outgrowth of the recent Cleveland scandal which led to criticism in Congress and elsewhere of the ODT-OPA rationing setup. ODT "took care of that matter in the field," NPN was told.

Explaining reason for shift, Col. Johnson said "present conditions require that the ODT regional highway organization direct a greater amount of attention and effort to the transportation phases of the ODT program, rather than the detailed work of gasoline."

"After almost two years, review of gasoline allotments to commercial motor vehicles operators," he added, "present certifications reflect the general needs of the industry. The majority of present changes in gasoline allotments result from

(*Continued on p.* 55)

Bitter Fight Brews on ODT Extra 'Gas' Stand

By James M. Collins
NPN Staff Writer

WASHINGTON—If ODT in order to "save" automotive transportation, attempts to hold down rations to motorists when a large quantity of gasoline becomes available after the defeat of Germany, a bitter dispute between that agency, on the one hand, and PAW, OPA, and the industry, on the other, seems certain to result.

The industry's stand in such a situation became crystal clear this past week. Following release of two reports by OWI —one on passenger cars, the other on gasoline—the Petroleum Industry War Council took immediate note of the thinly-veiled hints that "A" card drivers may not get any more gasoline after the defeat of Germany, even if there is an abundant supply.

Tip-off that ODT is serious about "conserving" the nation's passenger cars, came in the OWI report on the passenger car situation, in which Charles Dearing, director of ODT's division of review and special studies, was quoted as saying:

"It is absolutely necessary to keep all the factors of private car operation—gasoline, tires, repair parts—substantially in balance, in order to maintain the essential mileage of automobile use. The margin of safety in the supply of cars is so narrow that we cannot afford to gamble."

Foresees Closed Refineries

The P.I.W.C. was expected momentarily this week to take action in direct opposition to the idea advanced in the two reports that "A" card drivers might not get the gasoline that will become available. The reports were called to the council's attention by B. L. Majewski, chairman of the national marketing committee, who told NPN that if fuel was withheld from motorists in the face of an adequate supply, the industry economy "would be shaken to its foundations."

Mr. Majewski envisaged development of a situation in which refineries, being unable to dispose of fuel, would have

(*Continued on p.* 8)

ODT Disclaims Report

NPN News Bureau

WASHINGTON — A formal disclaimer of responsibility for or connection with the controversial OWI reports on gasoline and passenger cars has been entered by the Office of Defense Transportation, NPN learned late Tuesday on the best of authority.

The unusual action was taken by ODT Director Johnson in a letter to OWI Director Davis in which he protested that, despite repeated specific and strenuous ODT objections to the "conflicting and confusing nature" of the material assembled by OWI, that agency had largely ignored ODT's views in publishing the reports.

Despite Mr. Johnson's disclaimer, NPN was told at OWI that both reports had been submitted to all interested government agencies, including ODT, for clearance "in the usual manner" and that OWI had not been aware of any dissatisfaction on the part of ODT.

With Warren Platt: The Fire on the Hearth in Northern France

NPN's Editor Spends an Evening with a Pipe Line Crew Who Tell of Frightfulness of German Bombs

By Warren C. Platt

AT THE FAR END WITH THE PIPELINE CREW—Said the colonel, when only a handful of us remained at the dinner table in the vast but chill and darkening dining room of the large French house (the colonel commands a regiment of engineers that is laying pipe line from the channel to up front) — said he: "The worst scared I've ever been was when word came to me at Cherbourg, just after it fell, that there were a couple of mines in that huge cavern the French had cut in the hill at the end of the tunnel.

Mr. Platt

"Well—there was nothing to do but go in after them and that was our job as engineers. With an expert from a mine-searching company and the battalion major, we walked with our pocket flash lamps just stabbing in the dark and the loose slabs of concrete banging under our feet as if the next would set off a German bomb. Way back under that hill in perfectly good condition, were two bombs.

" 'What kind are they?' I asked.

" 'Either the kind that go off when you pick them up or they are time-bombs already set to go off, but we can't do anything with them in here,' said the expert.

"So we picked them up and started back those long, long 700 yards. They did not go off, obviously, when we picked them up—but when would they? 'There's no telling when,' said the expert.

"Part way to the sunshine and safety, a Frenchman came running to say there were other bombs in a side chamber. So we put down the two we had and then had to wait for the Frenchman to get the key to the big iron door. There was time to think of all the army's warnings and instructions about booby traps—when you pick them up, when you snap on a light, when you turn a key, when you open a door.

"We turned the key—we pulled the door open—oh, ever so slowly—and so gently—because—you know—

"I never was so scared in my life. But the door opened peacefully. There were a couple of bombs inside, like the ones we were carrying.

" 'They can be either kind,' said the expert.

"—So—we picked them up also—the major—the expert—the Frenchman and myself—and we finally passed out of that long, black tunnel and into the sunlight and set those things down in a safe spot.

"The experts took them apart in approved style. But after going through all those mine fields on the beaches and around Cherbourg—and our boys cleaned up more than 1200 mines there—well, I never was so scared in all my life nor can I be more so again, as in that long, long, black, cold tunnel that should have been filled with all kinds of trick mines ready to explode."

* * *

Said the young captain, a petroleum engineer, former oil field worker and now helping to lay the pipe lines over here.

"Those bombs and mines and that strafing are the mose devilish things, the most fiendish things, the most God-awful things. With the bombs and sometimes with the strafing you may have a chance to jump into a foxhole—but the mines—you haven't a chance.

"And they injure and kill so horribly —and they wreck your mind as you watch.

"There are those 'S' mines that spring out of the ground when you step on something—what?—you never know—just a little something—no more than a pebble or a twig. They come up like a jack-in-the-box, waist or chest high and in seconds to the fraction they go off right there at your chest—no time for anything—no warning—nothing you can do.

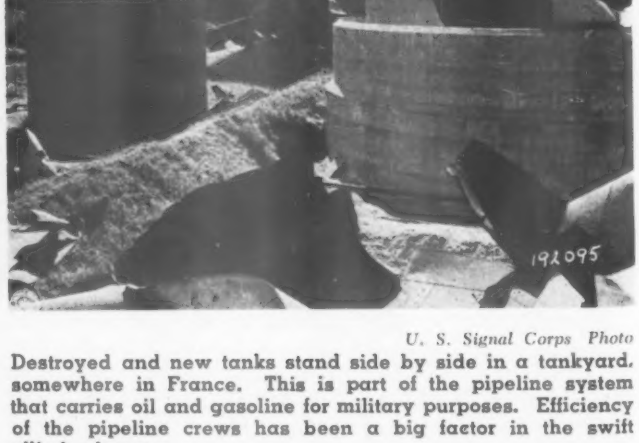
"Colonel, do you remember the man in that group of four or five who grabbed that thing to his belly like a football player taking a fast pass—caught it right there in his arms and his stomach?

"It tore the hell out of him—threw his guts all around—but the others got off with only one getting a slug in his knee. Lamed for life—but he has life.

"And how those fellows who get those things writhe and shriek and squirm and claw with their hands and arms—and how they kick with their legs and feet. And their faces get distorted, all drawn every which way. Probably they

Tank Farms Damaged by Nazis, Restored to Service by Allies

Some of the tank farms into which the U. S. pipeline feeds, a pipeline carrying vital gasoline and oil to the front line troops in France, were destroyed by the retreating Nazis. U. S. engineers used the existing blastwalls and hulls as protection for new tanks erected on the same spot



U. S. Signal Corps Photo

Destroyed and new tanks stand side by side in a tankyard, somewhere in France. This is part of the pipeline system that carries oil and gasoline for military purposes. Efficiency of the pipeline crews has been a big factor in the swift allied advance

are not conscious. Probably, it's all a nervous convulsion due to the terrible shock, but they look and act as if they were suffering as no one ever suffered before, as no one hardly can suffer.

"And the worst of it is, no matter what you are told not to do, no matter how futile it may be, you just can't let them lie there in that awful agony. You just can't do it. You just have to go into that weed patch to fetch them out, and, yet that only means more deaths and you know it.

"The Germans must know the absolute mentalagony that causes a mental, yes, a living death."

The captain was twitching his own hands as he finished, was waving his arms and drawing up his feet.

* * *

Said the young lieutenant, likewise a production engineer, who had worked his way through school, "roughnecking", and who landed on that "messy" and much bombed and mined beach on that hectic "D plus 3" day:

"Colonel, you know the man from one of our companies who got too curious about a dead German over in a nearby field at Saint Lo?

"Three men and a medic went after him, through there was nothing they could do for him. Coming back the medic tripped a mine and that ended him but the man in front of the medic stopped most of it for the others. Capt. McCann (Oklahoma City oil man and head of one of the pipe line laying companies) yelled to the survivors to sit where they were while he sent in some mine sweepers.

"But you can't fight them."

We sat silent in the dark made by the orderly banging the black-out steel shutters. There have been no raids here for a long time but whatever protection a black house will give one, orders say you must have. But black houses are no protection from mines with their triggers hidden in the grass.

* * *

The Father, Officer and Pipeliner

He had been fidgety for several days. Long months in a wet tent evidently had put his health below par. He dabbled with his food.

He came into his room in this large but unheated French house. He said he was cold and he was looking for his field jacket. Then he rushed out, saying he must have left it downstairs.

I didn't notice the jacket at the moment. (It has been right under his eyes.)

But I called to him that I would start a fire in the marbled and mirrored fireplace and to come back when he got the jacket.

I started a fire. It burned brightly and warmly. But he didn't return. The fire went down to a smoking ember and I put on a small block of sawed pine. It only smouldered but wouldn't blaze. I kept on at my typewriter.

He came rushing back, found the jacket, shivered, and put it on. Said it was awful cold. It really wasn't cold, just dark and damp, not a pleasant day after months of grind and many of them in a wet tent. He had been doing a lot of coughing.

I suggested he sit and rest and got out an old blower but the fire would only glow, not burn, most of the oxygen-giving air leaking out a rip in the side of the bellows.

He fiddled around at the far end of the room and then it came out.

"Just got a letter from home today," he said over his shoulder, hunched against his chill. "My brother-in-law went out, my wife wrote, some weeks ago. Was flying off Italy and they got him."

He fidgeted around some more and then jerked out. "I wish this damn war would end. God, how I wish it would end. You know, my son—he's 19 and just graduated as a full pilot—he's on his way over here right now."

I pushed a chair in front of the fireplace and again asked him to rest. As he sat down, the stubborn wood burst into flames, the cheery kind that fills a room and warms both body and soul.

"The sun from behind the dark clouds," I remarked and the flame brightened some more as the sun does the day.

He stretched his legs and lit a cigarette and we talked of many things, but not of the war, nor of the fighting aviation gasoline he has been working early and late to get to the front for the young men of America, some of whom do not come back to their airfields, nor did we talk about strafing or mines that take out one's guts. We just drifted casually away from the horrors now in France.

He sat there quietly and relaxed for more than an hour and the fire burned in comforting and friendly and warming manner from that one small pine block—just as the sun.

"You know," he finally said, "that fire is mighty cheerful. Let's go down to dinner now."

We went and the fire, which had done its good deed for the day, died and the flame vanished as I closed the door almost as if snuffed by a Mysterious Hand as if to save that pine block for another who might need its help.

* * *

The colonel is real and the story he told is true. He is Col. John L. Person, West Pointer and regular Army Engineer who took over the regiment, building and operating the Army pipe lines in Northern France since just before the fall of Cherbourg.

The major, who invaded that long, dark tunnel for the mines, is real also. He is a road builder from Chillicothe, Ohio—Maj. Charles E. Alley, executive officer of the Military Pipe Line Group, Advance Section Communications Zone.

The captain is real and his story, too is true. He is 27-year-old Capt. Clayton E. Bird, petroleum engineer and ex-roustabout in our Southwestern oil fields, and last with the Plymouth Oil Co. at Texon, Texas.

And the lieutenant is also a living person and he told a true story. He is

Trestles Support Pipelines Running to Front

U. S. Signal Corps Photo

Trestle bridges, such as shown above are built over rough country to carry the pipeline which feeds gasoline and oil to the front line troops in France

1st Lt. E. H. Smith, from the Colorado School of Mines, who also learned the oil business working for drilling crews for Continental Oil and Standard of California.

The father. He is very real and his story is only too true. He went out "on the line" the next day, his chill notwithstanding, to hurry the pipe line job that will supply "av" gas to his son and the sons of thousands of other fathers—unless "this damn war" ends right quick.

His name?

There are twelve million fathers and twelve million mothers thus concerned in this war. But if you cannot supply your own name then use that of a neighbor down the street.

His story was just that real.

F. D. R. Asks for Plan To End War Agencies

NPN News Bureau

WASHINGTON — The first official step toward eventual liquidation of PAW, OPA, ODT and all other war agencies was taken this week by President Roosevelt in ordering the Budget Bureau to make plans now "for adjusting the executive branch of the government from the needs of war to the needs of peace."

While acknowledging that most of the planning probably will have to wait for execution until the end of the Japanese war, Mr. Roosevelt said that plans would have to be carefully made to accomplish the transition from war to peace "with a minimum of disorder and disruption", and that this was the time to begin.

Accordingly, he asked Budget Director Smith to re-examine the "programs, organization and staffing" of all government agencies and submit recommendations for their liquidation "at the earliest possible date."

Text of Instructions

Following is the text of the President's instructions to Mr. Smith, under date of Sept. 18:

"Total war has required a great expansion of government activities, agencies, and personnel. Our success on the battle fronts all over the world bears witness to the effectiveness of our efforts.

"Upon the termination of hostilities, we must proceed with equal vigor to liquidate war agencies and reconvert the government to peace. Some steps along these lines may be taken when the fighting ends in Europe. The transition from war to peace should be carried forward rapidly, but with a minimum of disorder and disruption. Only careful planning can achieve this goal.

"This is the time to do the planning, although the war—even in Europe—is not over. Most of the planning will probably have to wait for execution until the Japs have surrendered—and there is no way of telling when that will happen. But the plans should be ready.

"In order that I may most effectively fulfill my responsibilities as chief executive in the demobilization period and may present appropriate recommendations to the Congress on the reconversion of the government agencies, I am asking you to re-examine the programs, organization, and staffing of government agencies and submit to me at the earliest possible date recommendations for adjusting the executive branch of the government from the needs of war to the needs of peace.

"Such recommendations should include plans for (1) the liquidation of war agencies and the reassignment of such permanent or continuing functions as they possess; (2) the reduction of government personnel to a peace footing, and (3) the simplification and adaptation of the administrative structure to peacetime requirements.

"In general, recommendations should include the methods for effecting the proposed changes and the appropriate timing of these changes. Immediate attention should be focused on the adjustments needed upon the termination of the war in Europe."

Let Employes Know You Want Them Back

LONDON—If you have not written your old employes with the armed forces that you want them back, you might well consider doing so. Some of them, at least, are worrying about finding jobs, let alone their old ones, when they get back. Reports of "general unemployment" and "big shutdowns" seem to have gotten abroad, at least so far as a limited inquiry can develop.

So far, I have been able to trace only two oil companies, and no other companies at all, for that matter, who have written their employes about postwar jobs. One of these oil companies seems to have phrased its circular letter so that some of its former men got the impression that if they answered the letter they would be so pledging themselves to return to their old company as to possibly lay themselves open to unfriendly charges, should investigation ever come, that they were so committed to their companies that they could not be fair in their present important administrative jobs.

Whether their fear is justified or not, the writer cannot say as he did not see the letter. But the men, in these instances, did not answer it. Their fear also shows the fear of an investigation of the oil industry, regardless of its fairness, permeates even to oil men over here.

The other oil company that sent letters to its soldier employes is the Pure Oil Co. The letters were individually addressed, individually typed and signed by Henry M. Dawes, president. They expressed a friendly and personal interest in the recipient's welfare and assured him that the company was looking forward to his return and would have a job ready for him. The letter pleased the recipients mightily, even though some of them debated if it were possible for President Dawes to get out enough personal letters to write one to every former employe. Even granted that it was a general letter, the recipients were well pleased.

Former employers could remember that English papers print but a scant half column of news from the United States—boiled down. Being published for English citizens, obviously the details of any prospective postwar employment problem are not much discussed. But no matter what the English papers print, it is hard for the average soldier to get hold of a copy even if he wanted to because editions are held down because of the great scarcity of paper. The soldiers' paper, the *Stars & Stripes*, does an interesting job of reporting news from home but it too must stick to bulletins and short stories. Besides, any discussion by it of prospective postwar employment might be considered as taking up a controversial subject.

It would seem that employers, in writing their former men, could give a fair analysis of the job situation. They could point out that at least a large number of women war workers do not expect to continue when peace comes, in fact, are leaving their jobs now; that another large group came up from the South only because of the high wages and probably will return when those wages are no longer paid because in peace times they are not competent to hold jobs under real competitive conditions. Also, many war workers likewise interested in only high wages in war plants, will return to the farms where a living is assured them.

Amid all the lurid headlines and talk of "postwar unemployemnt" it would seem that an early clear and fair analysis would be much in order. At all events your former employes are entitled to hear from you and to be assured that the oil companies want them back and will have jobs for those who are capable of filling them. —W.C.P.

Jones of Cities Service To Head Dist. 1 Committee

WASHINGTON—Elevation of W. Alton Jones, president of Cities Service, to chairmanship of Dist. 1 general committee was announced this week by PAW Ickes.

Mr. Jones was described by Mr. Ickes as the "logical choice" to succeed the late John A. Brown.

A. Jacobsen, president of Amerada Petroleum Corp., succeeded Mr. Brown as chairman of P.I.W.C.'s National Oil Policy committee.

Universal Oil Is Gift Of Major Companies To Chemical Society

NPN News Bureau

NEW YORK—The American Chemical Society has become full owner of Universal Oil Products Co., from which it will obtain an estimated annual income of $1,000,000 to be used for petroleum research, it was announced here on Sept. 13 by Dr. Thomas Midgley, Jr., president of the society, at its annual dinner.

Transfer of ownership was the result of a gift from the major oil companies which were co-owners of Universal, including Phillips Petroleum Corp., Shell Oil Co., Standard Oil Co. of California, Standard Oil Co. (Ind.), Standard Oil Co. (N.J.) and The Texas Co.

Dr. Midgley estimated the value of Universal Oil at between ten and fifteen million dollars. The gift was made with the provision that the entire income shall be used by the society at its discretion for research in the fields of science relating to the oil industry. Universal Oil is the holder, among many other patents, of the Dubbs process for cracking oil.

The gift gives the society the largest trust fund ever put in its care and will multiply by ten the funds available to it for research, Dr. Midgley revealed.

"The owners of Universal Oil Products Co.," Dr. Midgley said, "have offered to give all stock and securities of the company to the society. The board of directors of the Society has accepted the offer in principle, and has appointed a special committee to complete final details."

Public Will Benefit

In announcing that the income will be used on oil research, Dr. Midgley added that "results of the research will be published and will be available to the public without payment. The donors will have no right to such results greater than those of the public at large."

The company will be maintained intact, and its licensees will continue to enjoy use of its patents.

In Chicago, J. D. Alther, acting president of U. O. P., denied a statement carried in Sept. 13 NPN quoting him to the effect that the large oil companies, prior to the decision to donate their stock to the society, had been considering the "dissolution" of U. O. P.

"The Universal organization," said Mr. Alther, "has been assured that no plan will be adopted involving its dissolution nor will any action be taken that will affect the welfare of the company which will continue with its research and development efforts and continue to render the same service to the refining industry, especially its licensees who number approximately 100. In other words, there is no intention to jeopardize the existence of the company nor the services it renders.

"The U. O. P. organization is presently devoting its entire efforts to a large part of the aviation gasoline program which comes under its jurisdiction and supervision. This program involves six basic processes developed by Universal of which there are approximately 75 installations in successful operation in the many different refineries scattered throughout the nation."

DEATHS

B. W. Hanson

NPN News Bureau

CHICAGO—B. W. Hanson, manager of the Tire, Battery and Accessory Department of the Pure Oil Co., died suddenly here this week at the De Witt Hotel, where he had made his home since coming to Chicago in 1939. Death was a result of a heart attack. Mr. Hanson was president of the T.B.A. Executive Group in 1943 and was still a member at the time of his death. He leaves his wife, a daughter, and both of his parents.

Louis H. Benner

NPN News Bureau

NEW YORK—Louis H. Benner, general traffic manager of the Socony-Vacuum Oil Co., Inc., died here on Sept. 9 after a long illness. He was 60 years old. Mr. Benner started his career in the oil industry in 1907 with the Standard Oil Co. of Kentucky and in 1911 he became head of the traffic department of the old Standard Oil Co. of New York.

Gulf Buys 50 Shell Stations In Up-State New York

NPN News Bureau

NEW YORK—Shell Oil Co., Inc. announced last week that it had sold approximately 50 of its service stations in the Ithaca-Binghamton-Elmira area of New York State. At the same time it was revealed that Gulf Oil Corp. has purchased the 50 stations disposed of by Shell and will expand its marketing activities in that territory.

S. A. Flint, division manager of Shell's Albany division, said that Shell's withdrawal from the Ithaca area constitutes an effort to obtain a more economical transportation and distribution set-up.

"The sale of these properties will not in any way affect the distribution of Shell products in other parts of New York," Mr. Flint said. "In fact the company plans to expand in other territories in the State."

Mr. Flint said that Shell was withdrawing from certain territories, of which this is one, in order to consolidate more strongly its position in other territories in which transportation and distribution facilities are such that more efficient and economical means of operation can be obtained.

Gulf Oil began operation of the former Shell stations Sept. 1. It was not announced whether or not Gulf plans to make further acquisitions of this character.

Jennings Socony President; Sheets Is Chairman

Mr. Jennings

Mr. Sheets

NPN News Bureau

NEW YORK — Directors of Socony-Vacuum Oil Co., Inc., on Sept. 14 elected B. Brewster Jennings as president of the company and chairman of its executive committee to succeed John A. Brown who died on Sept. 9. At the same time Harold F. Sheets, vice-president, was elected chairman of the board of directors, a post that had been vacant since 1935.

Mr. Jennings has been associated with Socony-Vacuum and its predecessors for 24 years. In 1936 he was named assistant to the president, and in the following year was elected to the board of directors. In the latter capacity he was in general charge of transportation activities.

After his graduation from Yale in 1920, Mr. Jennings became a clerk in the marine department of Standard Oil Co. of New York, and later was made purchasing agent and manager of real estate development for that company. After Standard of New York and Vacuum Oil Co. merged in 1931 to form the present company, Mr. Jennings was appointed a director of major operating subsidiaries.

Early in 1942 he was given a leave of absence to manage tanker operations for the United States Maritime Commission and later for the War Shipping Administration. He returned to Socony last August.

Mr. Jennings' family has been identified with Standard Oil interests for almost 80 years. Both his grandfathers, Oliver Burr Jennings and Benjamin Brewster, were trustees of the Standard Oil Trust. Mr. Jennings' father, Oliver Gould Jennings, also was active in Standard Oil Enterprises.

Mr. Sheets has been with the company for 37 years, having started with Vacuum Oil and serving until 1924 in its European operations with headquarters at Paris. On his return to the United States, he was named vice chairman of Vacuum's lubricating oils committee. He became a director in 1930 and vice-president in 1931. After the merger he was elected a director and was named to the executive committee in 1933.

Bitter Fight Over Gasoline Rationing Foreseen If ODT Withholds Supply After Nazi's Defeat

(*Continued from p. 3*)

to close down for lack of storage. He pointed out that this would mean curtailing the output of 100-octane aviation gasoline.

The Council reportedly was informed by a PAW official that ODT has said it could absorb an additional 200,000 b/d of gasoline for allocation to civilian uses, provided, however, that it first received assurances from WPB that tires and parts would be available, as a result of cut-backs in military demands. Estimates of the amount of motor fuel that might become available for domestic use at the end of the European conflict have ranged as high as 300,000 b/d. Question is: if 300,000 b/d does become available, and ODT can "absorb" only 200,000 b/d, what happens to the remaining 100,000 b/d?

OWI attempted to blueprint the situation on gasoline as it will exist after Germany surrenders in the following words:

"Today 'A' drivers receive rations sufficient to keep their cars in operating condition and to provide the essential family transportation, and the 'C' drivers already are allotted the gasoline they require for their essential driving.

"If more gasoline becomes available for civilians, it would be used to provide increased rations for trucks and buses. When more gasoline is available for passenger automobiles it is intended to equalize the 'B' ceiling in the different parts of the country. Such a move is not contemplated at the moment, but if at any time it becomes possible, it would not increase the rations of home-to-work-and-return 'B' drivers, those who ride in pools, OPA explained.

"Beneficiaries would be the in-course-of-work-drivers who are now limited to business driving of 325 miles per month in the East; 475 miles per month in the Mid-West and 400 miles monthly on the West Coast. This mileage is computed on the basis of 15 miles per gallon of gasoline. To equalize the 'B' ceiling in the East with that in the Mid-West, would require approximately 13,000 barrels of gasoline per day. OPA estimates that approximately 50 per cent of all 'B' drivers in the East already are at the ceiling; only some drivers in this group would be eligible for increased rations."

The "clincher", as far as the "A" card driver is concerned, came in the following paragraph:

"OPA calls the 'B' group the 'accordion' of the rationing system. Any fluctuations in the allotment of gasoline would initially affect this group. 'A's' may expect no increases until all 'B' drivers are allowed rations sufficient to permit them to engage in the full amount of essential driving their business warrants, and even then any increase in the 'A' rations might depend on the general state of the automotive system of transportation."

Those two words, "even then", presumably mean this: assuming that gasoline supplies are unlimited, a short supply of cars, or parts, or tires, will make it "absolutely necessary," (in the words of Mr. Dearing of ODT), to hold gasoline rations in balance with whatever factor is short—tires, cars, or parts.

As to the general state of automotive transportation, which OWI above said might limit increases in rations for "A" card drivers, the reader can decide for himself what the situation will be at the time the European war winds up from the following "facts", which were embodied in a companion OWI report on the passenger car supply situation:

Scraps 4000 Cars Daily

1. More than 4000 cars a day are being scrapped, going off the highways permanently—a total of 1,500,000 estimated for 1944.

2. The reserves of private automobiles now off the road are estimated at 650,000 used cars in dealers' hands or in storage, privately owned; and, as of the end of August, 20,000 new 1942 cars not yet released.

3. At the end of 1944, the net number of privately owned passenger cars in operation is expected to be about 23,750,000. Slightly offsetting the natural attrition decrease are a few surplus army cars now being resold to the public.

4. ODT uses the figure 20,000,000 privately owned cars in the hands of "essential" drivers as the minimum that will keep the civilian economy operating. Ordinarily, a margin of 3,650,000 cars over this critical number might be considered adequate, but those cars that are in the hands of essential drivers are receiving hardest usage, ODT said, and consequently are breaking down first. As a result, a gradual concentration of good cars "in the hands of 'non-essential' drivers is already occurring. Except for the rationing of 1942 cars, no machinery exists for guaranteeing that essential drivers will have autos."

Further on, in the OWI report on gasoline, were two very pertinent paragraphs describing the "duties" of the various agencies dealing with gasoline supply and rationing:

"PAW says it allocates all the gasoline that is available after military and war production demands are met.

"OPA rations all the gasoline that is allocated."

Thus, ODT's apparent plan to hold down rations to "save" passenger car transportation is in direct contravention of the policies of both PAW and OPA.

From all reports, OPA wants nothing to do with suppressing the flow of increased gasoline supplies to civilians. First off, OPA Chief Bowles, in talks with various officials, has expressed his deep desire to increase "A" rations as soon as possible. It is known that in policy discussions on the gasoline situation with his "right hand" men, Bowles has queried them as to the feasibility of upping the lowly "A" card holder, but each time has been told that other problems, such as leveling off the "B" ceiling, rated first attention. Thus, it is plainly evident that the OPA Chief is not going to stand idly by when and if ODT attempts to put the "kibosh" on increased "A" rations *after* trucks, buses, "B" drivers, etc., have been taken care of.

But aside from Mr. Bowles' desire to increase "A" rations, if gasoline is available, there looms the question of a gigantic black market if gasoline supply and demand are not allowed to seek their own balance. Observers freely predict that since gasoline, after the German defeat, must either back up into storage or flow to the civilian market, any action directed towards suppressing the flow of gasoline to passenger car drivers will result in a "fiasco" on gasoline rationing. They say that a black market of such

Motor Boat Ration Cut

NPN News Bureau

WASHINGTON — All gasoline rations for motor boats used non-occupationally were slashed this week by the OPA.

Effective Oct. 1, non-occupational inboard boats will be permitted two gallons of gasoline for each rated horsepower, with a maximum of 24 gallons quarterly. Outboard motors will be allowed 2½ gallons per horsepower with a maximum of 10 gallons in any three-month period. Inboard and outboard boats' quarterly allowances previously had been 125 and 20 gallons respectively.

Sole exceptions to the new rule are certain Coast Guard Auxiliary boats and those operating conducted fishing trips, OPA said. These will continue to receive rations under the old formula.

proportions would immediately spring up that OPA couldn't hope to catch up with it—ever.

However, entirely aside from the controversial aspects of the reports issued by OWI, as outlined above, they contained many other items of interest to the industry. The following are highlights from the gasoline report:

Expect No Basic Ration Change

1. Although refineries are setting new records for gasoline production at levels above 2,000,000 b/d, about 40%, or some 800,000 b/d, consists of aviation, military and other special grades of gasoline, and 60%, or about 1,200,000 b/d, of grades available for civilian use. In contrast, U. S. refineries turned out 1,966,000 b/d in 1941—all for civilians.

2. There is no expectation that there can be any "basic" changes in civilian gasoline rations before the end of the war in Europe.

3. Civilian grade gasoline stocks hit a low of 37,000,000 bbl. late in November 1943, rose to 50,500,000 bbl. on April 1, 1944, and since then have been steadily moving downward. They totaled 41,864,000 bbl. on Aug. 26, a drop of 2,302,000 bbl. since July 29, an average reduction of 82,200 b/d.

4. Deliveries of crude and products to Dist. 1 today run to 1,770,000 b/d as against 1,510,000 b/d in August 1943, and 1,540,000 b/d at the end of 1941, when tankers were carrying 95% of supplies.

5. Because of the high level of production, cooperation of industry and government, and because some above-ground reserves still exist (though diminishing), "there is no ground for pessimism as to future restrictions in rationing."

6. It is not contemplated that the pleasure driving ban, which was in effect in the summer of 1943 in the northeastern states, will ever be re-established.

Military Needs Result in Effort

7. Military demands have provided an incentive for "herculean" efforts on the part of industry to produce beyond the "rosiest expectations" of peace-time. Military requirements for all petroleum products have increased 280% since 1941, and call for more than 1,000,000 b/d more than was needed for military purposes at the time America entered the war.

8. Districts 4 and 5 were not hit as hard as other sections until the latter part of last year. "The high flexibility of the transportation system today and improvements in the production and refinery systems, however, will make it possible to avoid concentrated shortages in this area."

9. Quantity of gasoline certified to farmers and other non-highway users has increased 50% since 1941. Trucks, buses and taxis demand 17% more than in 1941.

10. The 1,250,000 b/d allocated by PAW during the third quarter of 1944 for civilian use contrasts to only 250,000 b/d used by civilians of all the rest of the United Nations.

11. Rationing has reduced the consumption of gasoline for passenger cars by 57% since 1941.

12. Gasoline rationing has been OPA's worst headache, and the black market in coupons has been the most extensive against which the rationing agency has contended. Today, progress has been made, and it is believed that the amount of gasoline sold on the black market is "somewhat less" than the five percent of the total supply which it estimated was illegally dispensed earlier this year.

13. An encouraging evidence of some diminution in the black market was the smaller gallonage of gasoline sold in exchange for illegal coupons, during the six weeks' period ending June 1.

Highlights of OWI's report on the passenger car situation were these:

1. The average age of all cars on the road is 6.3 years, and, as of Jan. 1, 14,000,000 cars, or over 54%, were seven years or older. These cars, because of age, will require more than 20% more work than the cars of normal years—20 hours per year, as contrasted with 16.5 hours.

2. According to surveys of its own affiliated garages, the American Automobile Assn. estimates that the number of repair men has dropped from 400,000 to 206,000; that the number of cars cared for per shop has jumped from 222 to 259, and per man, from 70 to 120.

3. It is estimated that cuts in military production amounting possibly to as much as 40% would be necessary in order to resume the manufacture of cars for civilian use. "If peace were to come tomorrow, it would probably be several months before cars would be available for delivery."

'R' Ban Lifted, 'Discriminatory,' OPA Says

NPN News Bureau

WASHINGTON—The ban on exchange of non-highway "R" coupons at service stations was completely wiped out this week by OPA with the admission frankly made by the rationing agency that the chief reason for revocation has been the "considerable discrimination" which resulted between various outlets (*see NPN Sept. 13, p. 8*).

Full text of OPA's Sept. 18 announcement follows:

"Beginning Sept. 22, all gasoline filling stations may again accept off-highway 'R' coupons, the Office of Price Administration announced today. The prohibition against acceptance of these coupons by most filling stations (Amendment 111 to Ration Order 5C) has been in effect since April 1, 1944. Its purpose was to limit the channels of transfer of 'R' coupons to reduce their illegal use."

"Before it was put into effect nation-wide the plan prohibiting the acceptance of 'R' coupons by most filling stations was tried out for two months in Georgia and Florida, where it worked successfully. It was also explained at length to representatives of industry, agriculture and state tax organizations throughout the country.

"In national operation, however, Amendment 111 has resulted in considerable discrimination between various retail gasoline outlets.

"Moreover, since the plan was originally conceived, 'R' coupons have been serially numbered. Through these serial numbers, coupons which have been diverted from non-highway use to unauthorized vehicle use can be traded directly back to the person who was issued the coupons.

"Thus it has been decided to revoke Amendment 111 and permit any retail gasoline outlet to accept 'R' coupons for non-highway use."

OPA's action was taken in Amendment 150 to RO5C, effective Sept. 22.

Foresee German Effort To Dominate Aviation

NPN News Bureau

WASHINGTON—Crushed in battle, Germany nevertheless will again attempt to dominate Europe's aircraft and component parts industry and to restrict American production, experts of the Justice Department's Economic Warfare Section warned this week.

Testifying before the Senate Kilgore Committee on War Mobilization, Economic Warfare Chief James S. Martin and his assistant, James B. Adams, revealed that the Robert Bosch Corp. of Stuttgart, Germany, slashed American production of Diesel engines by exacting high royalties from its U. S. subsidiary, the American Bosch Corp. of Springfield, Mass., producers of fuel injection equipment for aviation.

Compelled to Pay Royalty

By June, 1941, the U. S. Navy became alarmed over the restrictive effect of Robert Bosch-American Bosch agreements, Adams revealed. With its war program expanding, the Navy found American Bosch inadequate as its sole fuel-injector supply source. When E. C. Magdeburger, of the Navy's Bureau of Ships asked Donald P. Hess, American Bosch president for help in opening a "second source of supply," Mr. Hess found himself "in a dilemma."

American Bosch, operating under an exclusive license from Robert Bosch, had no right to grant a sub-license to any firm and therefore felt obliged to ask consent of its German parent, Mr. Adams testified, in order to aid the American defense program.

Mr. Adams also revealed that American

Bosch had been compelled to pay a five per cent royalty on fuel injection pumps and nozzles to the parent firm, raising the U. S. price of Diesel engines "three or four times above the cost of similar gasoline engines" and slashing diesel production in America. American Bosch failed in repeated efforts during 1939, to have Robert Bosch reduce royalties and to permit sale of U. S.-manufactured equipment in countries hostile to Germany.

Mr. Martin told the Senate committee that in the aircraft industry, the German government used "what appeared to be private commercial agreements to further its own interest and to restrict American production. This is particularly true in regard to the Sperry Gyroscope Co., Inc., Bendix Aircraft Corp., and the American Bosch Corp."

Abruptly terminating the American-Bosch-Robert-Bosch agreements, the Justice Department's Antitrust Division filed a complaint Dec. 29, 1942, charging violation of the Sherman Act. A consent decree entered the same day enjoined further performance of the agreements and requiring compulsory licenses under patents controlled by American Bosch.

"There is good reason to believe," Mr. Adams concluded, "that Germany will attempt to re-acquire domination over the aircraft and component parts industry in Europe after the conclusion of the war."

OPA Modifies Regulations For Heavy Fuel Users

NPN News Bureau

WASHINGTON — Large-volume consumers of heavy fuel oils requiring preheating now need pay—in coupons and cash—only for the gallonage actually transferred to their tanks, adjustments being made to 60 deg. Fahrenheit, trading temperature of fuel oil, OPA announced this week. Previously made for dealers and primary suppliers, this provision now includes consumers.

Other changes in OPA fuel oil rationing regulations were as follows:

(1) Fuel oil coupons may not be detached from customer's sheet in advance of delivery;

(2) Depositing consumers, with ration bank accounts, may issue checks to cover deliveries as late as 15 days after delivery, regardless of the size of their delivery. Previously this privilege, which OPA says allows time to verify quantities delivered, was limited to depositing customers receiving at least a 2,000-gallon delivery.

OPA's action was taken in Amendment 26 to Revised Ration Order 11—Fuel Oil—effective Sept. 22.

May Ban Butane for Drilling

NPN News Bureau

WASHINGTON—P.I.W.C. Production Committee disclosed this week that PAW contemplates issuing an order prohibiting the use of butane in development well drilling, due to probable development of a butane shortage by October 1.

Industry Advances Lauded in Ordnance Citation

(Left) Gen. Barnes . . . .(Right) B. B. Bachman

NPN News Bureau

WASHINGTON—Maj. Gen. G. M. Barnes, chief of the Research and Development Service of the office of Chief of Ordnance, revealed that a single grade of gasoline, 80 octane, now is used in all motorized land and amphibian equipment of the American armed forces, from jeeps to heavy tanks.

Other specific accomplishments resulting from Ordnance-industry cooperation through the Co-ordinating Research Council, Inc., which may affect the entire postwar marketing picture, include:

(a) Development of a heavy-duty engine oil for all military vehicles in three viscosity grades instead of 10, and satisfactory for use under all conditions.

(b) Replacement of seven grades of gear oil by three.

(c) Greases, similarly reduced in number of grades, which operate at extremes of temperature.

(d) Development of rust preventatives, which preserve both in storage and shipment around the world the motorized equipment, engine parts, gun parts, and other materiel.

These wartime accomplishments were revealed on the occasion of the presentation of the Ordnance Distinguished Service Award to Co-ordinating Research, Inc., on Sept. 14 in Washington.

The council, which is sustained jointly by SAE and American Petroleum Institute received the award at a banquet in the Hotel Washington.

Industry Men To Meet With OPA On Production Cost Problem

NPN News Bureau

WASHINGTON—A meeting between OPA oil price officials and industry representatives connected with the production branch is scheduled for late this week on the problem of establishing standards under which the price agency would grant price increases on "high-cost" production, NPN has learned.

This problem, an adjunct to the stripper well subsidy program, has been laid over until the present while government officials ironed out the kinks in the subsidy program. When the stripper program was announced in July, OPA pointed out that it intended to set up a procedure whereby high-cost production would be granted increases ranging up to 35c per bbl.

Such increases will be allowed when the maximum price is below the average cost of production because of certain high-cost factors and when the cost of production is not out of proportion to the output obtainable. (In other words, if it costs $10 to produce one barrel of crude from a particular well, such production would not be eligible for price increase because the cost of production is "out of proportion" to the output).

Meanwhile, it was learned that a number of additional stripper pools will be granted premium payment increases in next few days. Pools and respective increases will be embodied in a forthcoming order to RMPR 436. They are: all pools in Crawford County, Kans., 35c per bbl.; Kruse, Rooks County, Kans., 25c per bbl.; Hollow-Nikkel, Harvey County, Kans., 20c; Brown, Crowley County, Kans., 25c; Geneva, Van Buren County, Mich., 35c; and Platter Pool, Osage County, Okla., 35c.

WLB Standing Pat on 'Above-Minimum' Hiring; Affirms 25% Limit, Except in 'Rare' Cases

NPN News Bureau

WASHINGTON—NPN was informed this week that the War Labor Board's July 6 amendment to General Order No. 31, setting a limit of 25 per cent on the number of employes hired in any one year who may be paid at rates in excess of the minimum, represents settled policy and that there is no apparent prospect of the policy being modified.

Result is that oil companies—particularly on the production and drilling side—whose operations are being interfered with due to recruitment difficulties can expect relief only in "rare and unusual cases."

In such cases, NPN was told, operators facing serious interruption of necessary operations should apply to the appropriate regional labor board for relief. Also, it is understood, PAW stands ready to assist in individual cases where critical war production items are involved, but only on a basis of a rare and unusual case within the meaning of the board's regulations.

Origin of the amendment was in a desire of WLB to check a tendency toward the inflation of wages by means of hiring almost all new employes at rates substantially in excess of the minimum rates approved for various job classifications. Text of the relevant portion of the amendment follows:

"Employers of 31 or more employes.

"Restrictions on hiring employes at rates in excess of the minimum rate of the properly established rate range of a given job classification.

"1. **Existing establishments.** An employer shall hire employes at the minimum of the properly established rate range for a given job classification; provided, however, that an employe who has special ability and experience may be hired at a rate within the range corresponding to such ability and experience. But an employer may not, within a given year (which shall be the same year as the one used by the employer in calculating the average amount of merit or length of service increases given under Section II-C-1 of this general order) hire more than 25 per cent of all the employes hired for any job classification at rates in excess of the minimum of the properly established rate range for that job classification. In any job classification in which fewer than four employes are hired within the year, one employe who has special ability and experience may be hired at a rate in excess of the minimum rate of the properly established rate range. If, before the effective date of this amendment, an employer has had a plan properly in existence (as defined in this general order) which provides that some percentage of employes in excess of 25 per cent may be hired at rates above the appropriate minimum rate, such provision may be continued in effect."

Amended order also provides that in the case of new business establishments, or new departments created within existing business establishments, up to 50 per cent of all employes hired for any job classification may be at rates in excess of the minimum of the properly established rate range for that job classification during the first year subsequent to the organization of the new establishment or the new department.

Jobs paid only on a single fixed hourly rate are not affected by the order. Reports here that some employers in oil industry who have not hired employes at the minimum approved rates for a long time have indicated that the new requirement for hiring 75 per cent of all employes at the minimum rates will seriously interfere with recruitment programs. While adjustments in wage ranges have been made in many instances with the approval of WLB, in many cases only the approved maximum wage was adjusted while the minimum remained at its old level. Accordingly, NPN was told, if it is found that the present minimum rates have not been used for some time in hiring new workers and have no significance for current operations, employers should request adjustments from appropriate regional boards if it can be demonstrated that compliance with new requirement will lead to substantial interference with necessary operations. In its order the board refers to properly established rate ranges. These it was said, may be interpreted as including rate ranges in effect at the time stabilization of wages was ordered by the board, or rate ranges subsequently approved by regional boards or the national board which modified those in effect at the time of stabilization.

Question has been raised as to whether employes who are hired within the 25 per cent quota at rates in excess of the minimum and who subsequently quit their jobs must be counted against the quota or whether it is possible to hire other employes at the same rates to replace the workers who have quit without having to count the new employes against the quota. As to this, the answer is that under the present regulations, each employe hired at a rate in excess of the minimum rate must be included in the quota of 25 per cent regardless of whether or not he leaves his job during the succeeding calendar year.

It was pointed out, however, that returning service men formerly in the employ of a given company can be hired back at their old rates of pay even though these rates are in excess of the minima of the rate ranges approved for their occupations, without being counted against the 25 per cent quota. This partial exemption from the regulations will take on more importance as the number of returning service men increases.

GI Wash Day in Europe

NPN News Bureau

WASHINGTON — Gasoline cans and oil drums are being used by American soldiers in Italy and England to build successful washing machines, Army Ordnance Department officers learned this week.

Rigging up a washing machine in Italy from some old gasoline drums, a Washington private found business so heavy that he recently invented a small motor to operate his equipment.

Variety is the keynote of another GI washinig machine constructed by a staff sergeant and a corporal in England. It consists of an old oil drum, some jeep parts, a one-lung compressor motor and a field range to heat the water. And its owners declare the gadget is the perfect answer to "tattle-tale gray" on washdays.

Civil Plane Gasoline Now in CAA Control

NPN News Bureau

WASHINGTON — Confirming NPN reports, WPB today finally announced officially that responsibility for distribution of 73 and 80-octane aviation gasoline to private airplanes had been transferred from OPA to the Civil Aeronautics Administration.

OPA is to relinquish control of gasoline rationing for airplanes Nov. 1, with joint control to be exercised by OPA and CAA until that date.

WPB said the change in the character of private flying since curtailment of war training programs made the transfer advisable.

"From the beginning of the war until recently," it said, "virtually all private flying was under direct CAA control in connection with its various pilot training programs. Since all flying was under CAA control, OPA ration boards felt free to issue coupons for aviation gasoline in any quantity, confident that its use would remain in the war effort. With curtailment of CAA training programs, some planes have been released for non-official flying and it has become necessary to control allotment of 73 and 80-octane aviation gasoline to prevent unessential use."

As CAA is already established in control of civil aviation, WPB explained that this agency was deemed to be in a "better position" than OPA to distribute such fuel.

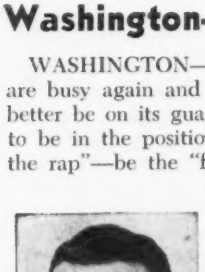
Under the new setup, CAA becomes the claimant before the Petroleum Requirements Committee of PAW for all 73 and 80-octane aviation gasoline.

CAA promised that it would issue before Nov. 1 a regulation specifying the purposes for which non-commercial civilian airplanes may use gasoline and providing that retail vendors may deliver such gasoline only into tanks of aircraft.

PIPELINES—*Views of the Industry's Problems Reflected*

Washington— *Industry Should Guard Against Latest ODT Scheme* —By Herbert Yocom

WASHINGTON—The super-thinkers are busy again and the oil industry had better be on its guard, if it doesn't want to be in the position of having to "take the rap"—be the "fall guy"—for a very special bit of nonsense being cooked up by the Washington planners.



Mr. Yocom

That there's "dirty work" afoot was let slip this week by OWI in a report which disclosed that down in the Office of Defense Transportation they think it "might" be necessary to hold down rations to the lowly "A" card drivers after the German war ends even though sufficient gasoline should be available to allow them an increase. The idea seems to be that the same factors responsible for gasoline being available might not be applicable with respect to tires and replacement parts, in which case it will be "necessary" to ration gasoline in order to "save" transportation.

If this "we're-going-to-have-to-keep-the-lid-on" thinking prevails to the point of becoming the settled policy, the result can only be to precipitate the industry into the middle of one of the nastiest messes in which, through no fault of its own, it has yet been involved.

Not only would oil men find themselves being called upon by government to aid in combatting what undoubtedly would be the biggest black market in American history—one which easily could bring about the early and complete collapse of the OPA gasoline rationing program, as OPA officials admittedly fear—but their own operating problems, growing out of a German collapse and the need for adjusting the refining economy to shifts in military demand, would be enormously compounded. It's going to be hard enough maintaining the maximum crude runs that will be required for an improved quality of 100-octane and solving the incidental problems of surplus industrial and heating oils without having, in addition, to deal with the problem of a surplus of motor gasoline.

As it is, we don't see how PAW and industry can plan sensibly for the adjustments that will have to be made when Germany collapses. Important decisions have to be made—and soon, to judge by the way things are going—yet so long as the prospect of civilian motorists being denied gasoline remains, there can be no certainty about anything.

In a nutshell, it's silly to harp on the idea, quoting the OWI report, that it is going to be "absolutely necessary to keep all the factors of private car operation—gasoline, tires, repair parts substantially in balance" regardless of whether gasoline is to be had.

What's needed, instead, is a little more down-to-earth realism, if that's not expecting too much from Washington in these days and times.

* * *

The following is submitted without comment:

Sept. 12—Claude P. Parsons, PAW Materials Director, tells PIWC Production Committee that WPB has lopped 20,000 tons of PAW's claim for steel to meet the oil industry's fourth quarter requirements.

Sept. 13—OWI reports that some oil fields are being over-produced, but that record-breaking production of crude and gasoline have failed to keep pace with wartime demands in America.

Sept. 14—WPB announces allocation of 100,000 tons of carbon steel and 25,000 tons of alloy steel to manufacturers of non-military goods for use during the fourth quarter.

* * *

Although Sen. Moore, of Okla., failed in his attempt to block Senate confirmation of Leland Olds' nomination to another term on the Federal Power Commission, that doesn't necessarily mean that the matter will end there. As a matter of fact, we've been told to be on the watch for the introduction of legislation aimed in one of two directions: repeal of FPC's jurisdiction over gas line, or the imposition of curbs against the arbitrary use of power by FPC.

* * *

PAW's Capitol Hill trouble-shooter, Adolph H. Levy, has resigned his post to re-enter the practice of law in Los Angeles. Levy was PAW liaison man with the Congress, a job that kept him hopping for the better part of two years. George M. Fuller, also a Californian, has taken his place.

* * *

It's now Executive Secretary-Treasurer Allen H. Hand of PIWC, instead of just plain Secretary-Treasurer. Along with the change in title, voted this week by PIWC at the request of Chairman Bill Boyd, went a handsome $5000 pay boost, making the Californian's total compensation now $15,000 per year.

Atlantic Coast— *Europe Will Look to U. S. for Oil Supplies After War* —By Frank P. S. Glassey

NEW YORK—Continental Europe will require approximately 2,500,000 barrels of petroleum products monthly for the first six months after Germany collapses, entirely apart from oil needs of Allied occupation armies and naval forces. For the year 1946, European consumption is estimated at slightly more than 65 per cent of normal pre-war total requirements.

Mr. Glassey

Those are semi-official calculations, hitherto unpublished, recently made by inter-Allied government experts. Their plans contemplate supplying Europe from the U. S. Gulf area or the North Atlantic. Almost 100 per cent of Europe's lubricants for the first year or so after the war will come from the United States. In view of these forecasts, any substantial relaxation in oil rationing along the East Coast appears debatable, to say the least, until Japan also is defeated.

"Normal" annual German consumption is figured at 51,000,000 barrels; that for France, 48,000,000; for Italy, 30,000,000; for Holland, 8,000,000, and Belgium, 7,000,000. None of those countries is expected to reach "normal" for several years.

Strange as it seems, Germany may actually be allotted a greater proportion of petroleum products after the war than other continental nations. The reason is that Germany, it is expected, will have to work for other countries, as a partial form of reparations. Germany will have more factories than any other country, and more motor truck equipment. Germany can manufacture trucks faster than nations like Belgium and Holland, and will get the oil needed to operate truck factories. The same holds true for locomotives and hundreds of other products which will be required by countries the Nazis have plundered for the last five years.

Large quantities of civilian automobiles and trucks will reappear on European roads when the war is over. Practically all motor equipment not confiscated by the German military has been stored for the duration, and can be put into service if tires and accessories are obtainable. In some countries as much as 70 per cent of the pre-war automotive volume will be back in use as soon as fuel can be procured.

Where will this fuel come from? Rumania's refineries have probably been destroyed, but Rumanian crude will be available immediately. Of eight large refineries in Italy, seven have been destroyed. The same proportion probably

also applies to destruction of French refineries.

As the war progresses against Japan, California petroleum supplies will not be sufficient, and the Caribbean areas will have to make up the deficiency. The only source for the bulk of Europe's oil will be the eastern part of the United States.

Several agencies probably will participate in allocating and financing oil shipments to Europe, including U.N.R.R.A., the Foreign Economic Administration, A.M.G., and the Office of Strategic Services. The State Department will be consulted, the Treasury will be called on for funds, and F.E.A. will grant export licenses. Actual buying will be in the hands either of the Bureau of Supplies and Accounts of the U. S. Navy or the procurement division of the Treasury.

* * *

Asks OPA Retailer Definition

Clyde G. Morrill, secretary of the Atlantic Coast Oil Conference, last week wrote to George H. Hill, Jr., executive vice president of the Defense Supplies Corporation, sharply criticizing the DSC interpretation of Amendments, covering revenue price declines on fuel oil.

Mr. Morrill objected particularly to:

1. Provisions regarding the manner in which an applicant may obtain reimbursement for the amount of a refund made in the event of a price decline.

2. The fact that no provision is made for refunds to persons other than those who have been applicants under Revised Regulation No. 1. As the ruling now stands, there is no stipulation compelling applicants under the regulation to reimburse a secondary supplier.

3. The difference between the OPA and DSC definitions of a retail establishment. The OPA says a retailer is one delivering into the container of a consumer. DSC says he is anyone who delivers more than 75 per cent of his product in less than tank wagon lots. The latter definition would include virtually all fuel oil distributors.

"Since your amendment presumed to cover protection for those who might be carrying inventories of product," Mr. Morrill wrote, "your definition of a retail establishment has robbed a large number of operators of such protection. I therefore urge you to adopt the OPA definition instead of the one you have established.

"The marketers of fuel oils on the Eastern seaboard are carrying anywhere from 30 to 300 per cent more product in inventory, as has been determined by a recent survey amongst our members. This has been due to the fact that PAW has urged secondary suppliers to fill their storage, it being common knowledge that primary suppliers' storage was to a considerable extent used by the Army and Navy for the war effort. It was vital that the secondary storage, therefore, should be put to use."

"Under no stretch of the imagination," Mr. Morrill added, "could a lag of ten days or two weeks between the wholesale application of a price reduction and the retail application of the reduction care for these huge inventories. It must be perfectly apparent that with the publicity that would attend such wholesale price reduction, every consumer would insist upon the immediate application of the lower price at retail or, failing to receive it, would delay purchase until the effective retail date. A simple solution of this problem is a change in your definition to comply with that of OPA."

* * *

The hurricane that hit the East coast last Thursday did only minor damage to petroleum installations. The facilities security division of PAW Dist. 1 estimated the damage at $250,000, of which about 75 per cent represented injury to piers and bulkheads on waterfront property. No losses of tanks were reported.

Midwest— *Prepare Now for End of Government Regulations* —By Earl Lamm

CHICAGO — Much has been said about freedom of enterprise and the evils of government regulation of the oil industry. Repetition over a long period of months and years sometimes produces queer impressions of permanency. But we hope no one has come to believe, even subconsciously, that "freedom of enterprise", for which they long have been crying in the wilderness, is so much blather — just froth on the mug from which politicians sip.

Mr. Lamm

Probably there are business men like that. We think we know some, personally, but prodding the inner-most workings of the minds—which is the portion that really counts—is not always easy, and in this case we hope appearances are deceptive.

However, since other oil men have expressed similar thoughts to us, we believe that it can safely be predicted that on "business liberation day", some oil jobbers and distributors are going to be caught napping. Freedom of enterprise won't mean what they think it should. It will be a shock to them from which they never may recover unless they take inventory and do some thinking now. It is late, but not too late, for at least some preparation.

First, it should not be difficult for any jobber who is honest with himself to determine whether or not the government regulations he dislikes have actually kept him alive during the war period. So can a refiner. There are some splendid industry men in government service and they planned it that way. But progress of the war and politics strongly indicate a trend toward the end of most regulations. In fact, industry and public sentiment are pretty certain to force it. We hear that one such program is now definitely in the making behind the scenes, to be announced when the time is ripe.

So the jobber with a pointed mind who pokes around among his office records for the facts, can find the answer as to whether or not it will stand on its own feet. All of the ramifications of the business should be put under the microscope and examined for financial and other structural weaknesses.

Especially, should the jobber examine the state of his own mind to determine whether or not he can readily switch from a seller's to a buyer's market without difficulty. He won't be alone with this problem, for we suspect that some sales managers for major oil companies have become sedentary. They, too, are due for a shock. And with regulations cancelled, a sales manager out of a job, or a bankrupt jobber, will not be the government's responsibility. Some failures are due. Will it be you?

> Here we pause to keep the record straight and insert a word of commendation for the old timers who are staying on the job until the youngsters return from the battle fronts. Except for the war, they would have retired long ago. They expect nothing after it's over but retirement in sunny solitude or among friends for a well-earned rest. We recently met one such melancholy jobber whose business was functioning in high when war hit. Now it's down to near nothing with all but four employes in military service. When they return, he plans to put the business on its feet again and turn it over to them. Men who do things like that are among the nation's unsung heroes.

Resuming the jobber analysis: Those who are mentally alert and salesminded, should have little difficulty ridding themselves of obsolete equipment, an-

(*Continued on p. 55*)

Report from the Nation's Oil Marketers—

Equipment Needs Run Into Thousands of Items, NPN Survey Shows

100,000 Pumps, 35,000 Trucks Among Immediate Requirements, Poll Indicates on Basis of 1035 Replies to Questionnaires

American oil marketers need the following equipment immediately, according to a nation-wide survey just completed by National Petroleum News:

100,000 gasoline pumps
98,000 storage tanks
62,000 lubrication guns
37,000 pumps
35,000 trucks
35,000 valves and fittings
25,000 air compressors
25,000 meters
20,000 truck tanks
20,000 motors

NPN News Bureau

CLEVELAND—Three years of inability to replace most equipment items have taken a heavy toll of servicing facilities of the nation's oil marketers, according to a nation-wide survey just completed by National Petroleum News.

Based upon NPN's canvass, an estimate of immediate needs throughout the nation is printed in the adjoining box.

These figures, running into the thousands for such essential items as storage tanks, gasoline pumps, trucks etc., are considered to be the minimum requirements that will enable the nation's oil marketers to continue to function efficiently for the balance of the war emergency and to build a solid foundation for keener competition expected when peace finally comes on all fronts.

NPN's survey sought to find the facts as to what equipment is required immediately, and what part of it the oil marketers themselves say should be released for civilian manufacture first.

The survey gives the national picture as developed locally in various parts of the country by NPN staff men interviewing marketing executives.

How Figures Were Reached

The overall figures were arrived at by NPN statisticians breaking down the returns received from 1035 companies from 47 states. These "ballots" in the form of a card asked the oil distributing companies to fill in on the basis of their present equipment needs that equipment they would like to have released for civilian manufacture first. The card asked them to give the number they themselves needed, if possible. Space was provided for filling in annual gallonage.

The returns were broken down into five classifications: (1) Those not reporting their gallonage; (2) those selling under 250,000 gallons annually; (3) Those selling 250,000 to 500,000 annually; (4) those selling 500,000 to 1,000,000 gallons annually; (5) those over a million gallons a year.

In tabulating the returns, the group selling under 250,000 were discounted by 50%. This was to allow for a smaller number of returns. Then taking the returns as being representative of the needs of each gallonage group, NPN compiled the figures and arrived at an average for each gallonage group throughout the country. Major oil company needs on the ratio between jobber and integrated company volume through service stations and bulk plants was added to get the above estimate of the industry's immediate equipment needs.

Actual Figures Given

Only 15 out of the 1035 companies reporting said they did not need equipment at this time. The other 1020 reported what kind of equipment they need most. Most of them gave actual figures as to the number of trucks, tanks, pumps and other operating equipment they need immediately.

Many items not included in the overall compilation were mentioned. These included various kinds of small equipment —themselves constituting a huge overall total. One marketer reported the need for a river towboat.

The replies came from every state except Nevada (see accompanying tabulation). The annual gallonage by companies was divided as follows:

Gallonage	No. of Replies
Under 250,000	130
250,000 to 500,000	183
500,000-1,000,000	216
Over 1,000,000	419
Gallonage not reported	87
Total	1,035

Trucks

Topping the list of immediate requirements, so far as individual units are concerned are gasoline pumps, but trucks represent the most urgent need, and was the item most frequently mentioned. Many companies wrote the words "urgent," "need badly" and other similar comments when they reported the number of trucks needed. No attempt was made to ascertain the size or type of trucks desired. But taking NPN's field surveys, indications are that many operators are planning on postwar operations with larger units than in the past, which would necessarily be followed with larger storage tanks.

An average of more than four trucks for every reporting company is shown by the survey, which reveals the following:

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	31	80
Under 250,000	47	62
250,000-500,000	95	149
500,000-1,000,000	106	201
Over 1,000,000	210	1,487
	489	1,979

Truck Tanks

The companies, based on the returns do not need as many complete truck and trailer units as they do trucks. Yet the average distributing company needs from one to six truck tanks right now, and the nation-wide average for all is three truck tanks per distributing company. Here is the tabulation on the immediate needs as reported:

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	25	52
Under 250,000	30	39
250,000-500,000	69	105
500,000-1,000,000	69	101
Over 1,000,000	122	799
	315	1,096

Gasoline Pumps

Distributing companies, aware of "terrific" postwar competition at their stations are determined to keep their outlets on a par or ahead of competitive stations in appearance and service, as indicated by the following returns on gasoline pump needs:

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	28	182
Under 250,000	44	185
250,000-500,000	73	374
500,000-1,000,000	79	661
Over 1,000,000	164	7,824
	388	9,226

Air Compressors

The returns indicate that marketers are going to need about one new air compressor to every 10 service stations in

operation at the beginning of the war. It further indicates that marketers in addition to late model pumps, and larger tanks, are also planning complete "ensembles." Here is what oil distributing companies say they are ready to order now and need in the air compressor line:

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	17	70
Under 250,000	28	67
250,000-500,000	45	135
500,000-1,000,000	61	163
Over 1,000,000	143	1,511
	294	1,946

Lubrication Guns

Included in the badly wanted station equipment line by the oil distributing companies, who operate the stations either direct or by lessees, is a sizeable number of lubrication guns. The compilation following indicates that 30% of the oil distributing companies will be buying lubrication guns. It shows that many oil distributors, and not the station operators, expect to supply this type of equipment to lessees.

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	12	65
Under 250,000	21	288
250,000-500,000	24	236
500,000-1,000,000	38	168
Over 1,000,000	95	2,830
	190	3,587

Storage Tanks

Storage tanks at stations, bulk plants, terminals, commercial and farm accounts compose another big volume of postwar, or immediate requirements. The needs of the oil distributing companies reporting to NPN follow:

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	18	125
Under 250,000	42	160
250,000-500,000	61	317
500,000-1,000,000	70	1,027
Over 1,000,000	150	5,952
	341	7,581

Six companies reported they need 1022 underground tanks for service stations; 16 companies reported they need 1113 tanks for farm accounts. One company, in reporting its farm tank requirements, wrote: "If I had this storage now I would have to make only one delivery a month instead of every week. And the government wants you to save gas and tires."

Where the size of bulk storage equipment was specified by the company, we find:

14 companies need 97 tanks of 10-15,000 gal. capacity
4 companies need 9 tanks of 20-25,000 gal. capacity
1 company needs a 75,000-gal. tank
1 company needs a 150,000-gal. tank
3 companies need 4 tanks of 5000 barrels capacity
3 companies need 13 tanks of 10,000 barrels capacity
1 company needs a 300,000-bbl. tank.

Needed "right now" by the companies making a report to NPN is almost a staggering total of plant equipment. Here is what the survey reveals as today's picture:

Meters

Meters are in more universal use among the larger distributing companies and hence their requirements are greater, per company, than for the smaller companies. Since the survey did not differentiate between replacement and new facilities we cannot determine from this report whether or not this demand indicates a still wider acceptance for meters in the oil distributing industry. Their use had been expanding before the war and it is assumed that their use will increase.

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	11	48
Under 250,000	17	32
250,000-500,000	32	79
500,000-1,000,000	30	63
Over 1,000,000	93	1,777
	183	1,999

Motors

Next to valves, fewer companies reported being in need of electric motors at this time than any of the other equipment listed in the survey.

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	10	44
Under 250,000	7	15
250,000-500,000	22	56
500,000-1,000,000	19	79
Over 1,000,000	72	1,415
	130	1,609

Pumps

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	15	96
Under 250,000	10	44
250,000-500,000	32	127
500,000-1,000,000	34	114
Over 1,000,000	71	2,420
	162	2,801

While few more distributors reported they need pumps than those needing motors, the average number of pumps needed by each company was much higher. Without doubt some distributors

Relative Importance of Immediate Equipment Requirements

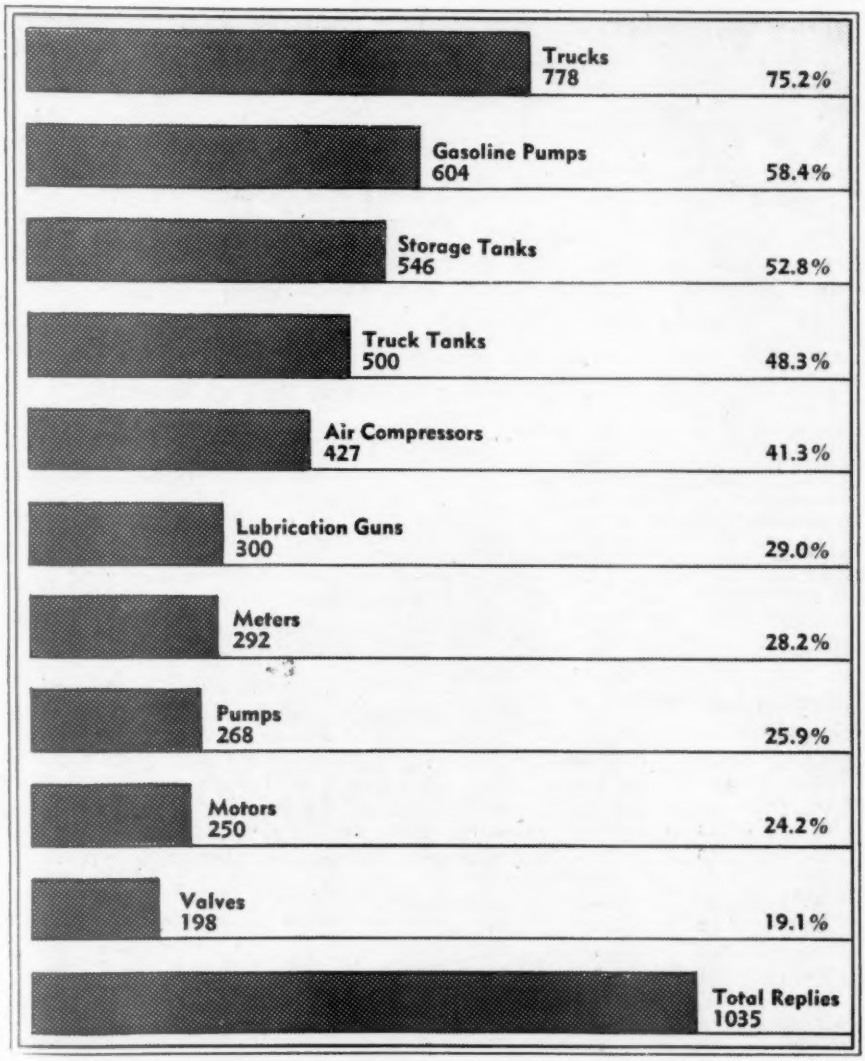
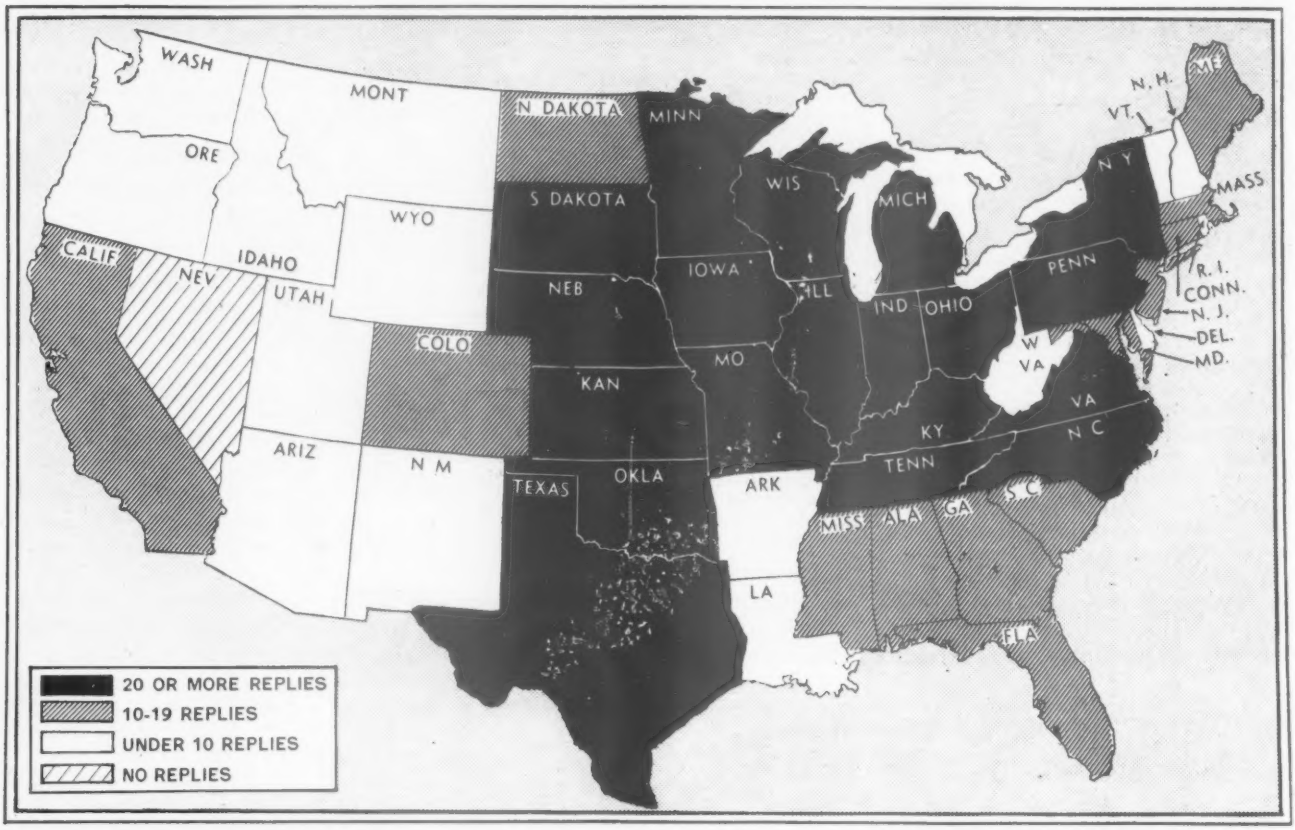


Chart above shows number of companies and the types of equipment they need, according to replies received in NPN's nation-wide survey of equipment needs. Chart includes returns from all companies whether they reported number or kind of equipment needed

1035 Companies Throughout U. S. Furnish Data in NPN Equipment Survey



Map above shows how oil distributing companies responded by states to NPN's request for information in its nation-wide survey of the oil equipment situation. Replies were received from every state with the exception of Nevada

listed their requirements for truck pumps and bulk plant pumps. No division between the two was made in the questionnaire.

Valves

Gallonage Group	Cos. Reporting by Number Needed	Units Needed
Not reported	3	27
Under 250,000	12	44
250,000-500,000	13	93
500,000-1,000,000	18	165
Over 1,000,000	36	2,433
	82	2,762

While valves are the least critical item needed by oil distributing companies at this time, nearly 20% of the companies reported an immediate need for valves.

Additional Items

In addition to the 10 items listed on the NPN questionnaire, oil distributors wrote out their specific needs for other equipment and materials as follows:

21 companies are in need of hose
14 companies are in need of truck tires
13 companies are in need of lifts
10 companies are in need of cans
10 companies are in need of drums
9 companies are in need of buildings

Other companies (one or more) reported needs for air towers, battery chargers, measures, office equipment, filling machines, electric water coolers, grease pumps and oil burners.

Equipment Needs of Oil Distributing Companies (as reported to NPN)

GALLONAGE GROUP*

Needed Items	Unknown	Under 250,000	250,000-500,000	500,000-1,000,000	1,000,000 and over	Total
Air Compressors	31	40	68	83	205	427
Gasoline Pumps	46	72	107	122	257	604
Lubrication Guns	21	32	34	63	150	300
Meters	25	31	46	47	143	292
Motors	20	19	40	35	136	250
Pumps	30	22	50	42	124	268
Storage Tanks	36	65	91	111	243	546
Trucks	59	84	132	167	336	778
Truck Tanks	37	50	85	107	221	500
Valves	20	23	29	40	86	198
Need Nothing	5	4	3	1	2	15
Total No. Companies	87	130	183	216	419	1,035

* Number indicates number of companies in each gallonage bracket who reported their need for each type of equipment.

47 States, Dist. of Columbia, Represented in Survey

NPN News Bureau

CLEVELAND — Replies were received from 1035 companies in 47 states and the District of Columbia in response to the equipment survey conducted by NATIONAL PETROLEUM NEWS. Number of companies responding by states, only Nevada not being represented, follows:

Alabama, 15; Arizona, 4; Arkansas, 9; California, 12; Colorado, 15; Connecticut, 11; Delaware, 4; District of Columbia, 3; Florida, 12; Georgia, 19; Idaho, 7; Illinois, 58; Indiana, 31; Iowa, 30; Kansas, 21; Kentucky, 23; Louisiana, 6; Maine, 13; Maryland, 11; Massachusetts, 16; Michigan, 49; Minnesota, 45.

Mississippi, 16; Missouri, 41; Montana, 9 ; Nebraska, 29; Nevada, 0; New Hampshire, 2; New Jersey, 19; New Mexico, 9; New York, 65; North Carolina, 43; North Dakota, 14; Ohio, 77; Oklahoma, 21; Oregon, 5; Pennsylvania 57; Rhode Island, 2; South Carolina, 19; South Dakota, 27; Tennessee, 25; Texas, 26; Utah, 6; Vermont, 4; Virginia, 23; Washington, 9; West Virginia, 7; Wisconsin, 38; Wyoming, 7; Unknown, 21.

The same principles

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Several of these are operating successfully —others are nearing completion

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CATALYTIC REFORMING	DEHYDROGENATION
HYDROGENATION	POLYMERIZATION
ALKYLATION	RETREATING
ISOMERIZATION	POLYTREATING
THERMAL CRACKING	U. O. P. CATALYSTS
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The Refiners Institute of Petroleum Technology

Rubber Director's Report (Part 2)—

Low Cost Crude Rubber Doubtful Until 2 Years After Liberation

Prediction Assumes Trees Will Be Undamaged, Research Expert Tells Col. Dewey in Analysis of Production Costs

NPN News Bureau

WASHINGTON — Two years will elapse after the liberation of Malaya and the Netherlands Indies before average cost of rubber production on estates in those countries can regain former low levels even if the trees are undamaged, in the opinion of Everett G. Holt, chief of the commercial research division of the Rubber Development Corp.

This forecast was contained in an analysis by Mr. Holt of certain data on the prewar costs of production for plantation rubber. The analysis appeared as Appendix A and was made a part of the final report of Rubber Director Bradley Dewey.

Last week, NPN printed the first portion of this report containing an introduction by Col. Dewey and an article on plant investment and production cost of the synthetic rubber plants prepared by E. R. Gilliland, assistant rubber director in charge of research and development and Harrison M. Lavender, Jr., of his staff. Also included was a report from Commerce Secretary Jones on the estimated costs and sales realization of natural and synthetic rubber. (*See NPN, Sept.* 13, *p.* 28.)

NPN herewith prints the second portion of the rubber director's final report which consists wholly of Mr. Holt's analysis:

APPENDIX A

TO

SPECIAL REPORT ON THE SYNTHETIC RUBBER PROGRAM

PRE-WAR COSTS OF PRODUCTION FOR PLANTATION RUBBER

By Everett G. Holt

This appendix is a condensation of a study prepared at the request of the Office of Rubber Director by Everett G. Holt, Chief of the Commercial Research Division of the Rubber Development Corporation and formerly Chief of the Rubber Division of the Department of Commerce. The article represents his own personal efforts in the analysis of certain data on the pre-war costs of production for plantation rubber and nothing contained herein is to be considered as reflecting the official views of the United States or any agencies thereof.

This study compiles and analyzes data bearing on the "real" costs of production, including amortization costs, for plantation rubber laid down in the New York market, and indicates the probable percentages of total capacity that have been produced at various cost levels, for representative pre-war years.

The approach to this problem is intentionally objective and empirical, more concerned with practical than with accountants' results, but considerate of both. Long term data are used to indicate trends. Short term data are used in connection with "fixed date" cost situations and to corroborate and amplify long term data. The data included in the study are all believed to have satisfactory evidential value, even though not in any one case, nor for any one year, fully comprehensive.

The period selected starts with 1913, and covers the thirty years since production of plantation rubber first exceeded the output of wild rubber in 1912. This period includes World War I, the postwar trade boom of 1919, the short, but severe depression of 1920-21, the British Rubber Restriction Era of 1922-1928, the world trade depression of 1929-1933, the International Rubber Regulation period of 1934-1941, and World War II to the end of 1942. Wars, trade booms, trade depressions, depreciation of currencies, industry regimentation and international isms have all participated in shaping the trend of rubber prices, which as will be demonstrated have not been without influence on costs of rubber production.

Wholesale Rubber Prices—New York Market

Taken over a period of years, dealers' selling prices for rubber in secondary markets (markets in rubber-importing countries) average higher than any other wholesale prices for rubber. Such prices include dealers' handling costs and profits in addition to laid-down costs at ports of entry.

These wholesale prices are therefore higher than the prices received by plantations, on the average, although an individual plantation might get better than average prices on its sales in any year. In a broad sense, the prices in secondary markets represent the level below which the average manufacturer was unable to purchase rubber, and above that at which the average producer was able to sell rubber.

The prices at which rubber has sold in the New York market have closely reflected dealers' wholesale prices in London, the principal other secondary market. International arbitrage usually kept the rubber prices well in line, as the commodity entered both the United States and the United Kingdom free of import duty. New York quotations are therefore representative.

The grade for which prices are quoted below is "plantation ribbed smoked sheets," prices for which are above the average for all grades of rubber. The prices represent daily quotations averaged for annual periods, as reported by the U. S. Bureau of Labor Statistics. Quotations are in United States currency.

TABLE 1—New York Wholesale Rubber Prices, 1913-1942—Cents Per Lb.

1913	82.0	1929	20.6
1914	65.3	1930	11.94
1915	65.7	1931	6.20
1916	72.5	1932	3.47
1917	72.2	1923-32	28.17
1918	60.2	1933	5.95
1919	48.5	1934	12.93
1920	35.9	1935	12.37
1921	16.5	1936	16.51
1922	17.3	1937	19.42
1913-22	53.61	1938	14.70
1923	30.7	1939	17.91
1924	26.4	1940	20.24
1925	73.0	1941	22.34
1926	48.7	1942	22.50
1927	38.1	1933-42	16.49
1928	22.6		

The average price at which consumers of plantation rubber bought from dealers in New York declined from 53.6c per lb. in the ten years ended 1922 to 28.2c in the next decade, and to 16.5c in 1933-1942. During 1930-1939, the average price was 12.14c per lb., the lowest for any 10-year period.

The producers of plantation rubber who stayed in business had to and did live within the income derived from sales of rubber at average annual prices somewhat below those quoted above and few rubber plantations went out of business.

During World War I, the price of rubber was high, but price was lower in 1918 than for any previous year and after the War ended, the decline continued and became accentuated after the 1919 post-war boom. From 1917 to 1921 the annual price average declined from 72.2c to 16.5c or 77% at the 1921 low point.

Since 1922, rubber trading has been free of the effects of government control over production only in 1929-1933; the average market price during that five-year period was 9.63c per pound, the annual price declining from 20.6c in 1929 to a low of 3.47c in 1932, or 83%.

Rubber prices during World War II have been higher than in years preceding this war, when International Rubber Regulation was also in effect. The overall trend from 1939 through 1942 is roughly comparable to the trend from 1914 through 1917.

United States Rubber Imports—Unit Values

The official statistics of the U. S. Department of Commerce covering rubber imports provide another series of statistics covering every year of the period under study. The imports are reported by quantity in pounds and value in dollars. Under the customs regulations, importers of rubber are required to declare the c. i. f. cost of imports. Experience with these statistics for many years has convinced the writer that the declared values reflect importers' average laid-down costs accurately.

The rubber imported into the United States represented about 45% of world production prior to World War I, then increased until it amounted to about 70% of world production in the first half of the 1920's, and thereafter gradually took less and less of world output until it accounted for about 50% in years preceding World War II. These imports came from all parts of the world, but the rubber was preponderantly of Far East origin over the period under discussion.

United States rubber imports for annual periods are therefore representative, from the standpoint of price, of the cost prices paid by importers throughout the world, plus insurance and freight to the United States.

The import statistics cover all grades and types of rubber, and the declared values would be expected to average somewhat lower than New York market prices for plantation ribbed smoked sheets because of inclusion of all the lower grades, as well as because of the domestic trading costs and profits involved in the market prices.

TABLE 2—U. S. Rubber Import Values, 1913-1942—Cents Per Lb.

1913	65.38	1928	25.04
1914	49.03	1929	19.08
1915	49.67	1930	12.91
1916	58.85	1931	6.57
1917	57.18	1932	3.50
1918	44.84	1923-32	25.54
1919	40.17	1933	4.89
1920	42.79	1934	9.80
1921	17.77	1935	11.39
1922	15.10	1936	14.93
1913-22	44.08	1937	18.46
1923	26.68	1938	14.10
1924	23.69	1939	15.96
1925	48.11	1940	17.37
1926	54.34	1941	18.18
1927	35.46	1942	18.94
		1933-42	14.40

Some of the rubber was imported by manufacturers who bought it in foreign markets, in this business they were in effect competing with rubber dealers. Some of the imported rubber came from plantations owned by the manufacturers, but this never represented a large percent of the total and the values reported for such imports were not such as to affect validity of over-all trends shown by the statistics.

These import values come closer to representing the prices received by producers, in terms of United States currency, than the New York market quotations in Table 1. There

was an average spread of 9.5c per pound between import values and market prices in the decade ended 1922, 2.6c in the decade ended 1932, and 2.1c in the decade ended 1942. The volume of imports increased tremendously, and as volume increased, dealers' profit margins logically enough declined. The lowest spread for a 10-year period was .89c for 1930-1939, when the unit value of imports averaged only 11.25c.

However, comparison of Table 2 with Table 1 shows that in several years the unit value of imports exceeded the New York market price. This was first the case in 1920 and 1921, next in 1926, next in 1928, and finally in 1930, 1931 and 1932. This phenomenon has always occurred in periods when price was declining, and is the result principally of two factors. First of these is the practice of making forward contracts (many months or at times over a year in advance of shipment), and second is the customary time lag between date even of spot purchases in the Far East and date of entry into the United States (often several months).

When these factors both operate in the last half of a year of rising market prices as in 1925, and this is followed by a year of declining market prices as in 1926, there may even be a sharp rise in the import unit value when the market price shows a sharp decline; this is the extreme instance.

A ceiling above the average selling prices of rubber producers is represented by the unit values, since they usually included costs and profits of intermediate dealers and brokers, plus overseas freight and insurance charges. That the rubber producers as a whole were able to remain in existence during 1931-1934 when the import value of rubber averaged only 6.2c for the four years is a remarkable achievement and presents strong evidence as to the competition of which they may be capable in future.

This achievement is particularly noteworthy when considered in connection with the declining import values of the four preceding years, from 35.5c in 1927 to 12.9c in 1930. It might have been thought that effects would have been sufficiently drastic to have exhausted accumulated reserves with which producing companies were strongly intrenched toward the close of the 1922-1928 period of British Rubber Restriction.

Costs for Estates, 1919-1922

British Rubber Restriction in the 1920's and International Rubber Regulation in the 1930's were fostered by the interests concerned with large estates in British Malaya and the Netherlands Indies. Information on estate production costs in these areas will be most indicative. The 1943 basic quotas of these two countries under the International Rubber Regulation Agreement accounted for 80% of the total basic quota of the Far East as a whole (including Indo-China at 60,000 tons), hence their interests are representative as well as dominant.

Exact and comparable figures on costs of production have seldom been publicly available for large groups of rubber plantation companies. The U. S. Department of Commerce, in "Plantation Rubber Industry in the Middle East" (Figart, 1925) devoted over 25 pages to analysis of records for years 1919 through 1922. On page 71, the "estate expenditure per pound of rubber," expressed in British currency (pence per pound), was estimated for various groups of companies.

"Estate expenditure" as used there was stated to include all expenditures on (1) Upkeep of producing area, (2) Tapping and collection, (3) Preparation of rubber for shipment, (4) Packing and shipping charges to local ports, (5) General charges (superintendence, maintenance of buildings, hospitals, etc.), and (6) Local taxes. The result was not an f.o.b. cost, for which depreciation of buildings and machinery would customarily be added, according to that report.

Total all-in cost would, in addition, have included (1) Commission to staff, (2) Freight and insurance to London, (3) London administration charges, and (4) Corporation and income taxes—in the case of a sterling company.

TABLE 3—Estate Expenditure Per Lb. of Rubber, 1919-1922, Pence Per Lb.

	1919	1920	1921	1922
27 Malaya, sterling companies	10.6	11.4	9.8	6.7
19 Malaya, dollar companies	9.4	10.5	8.4	5.9
49 Java, estates	10.6	11.5	8.2	5.6
11 Sumatra, estates	10.0	14.0	12.0	7.2
13 Ceylon, sterling estates	11.7	13.7	7.4	6.0
10 Ceylon, rupee companies	9.5	11.8	4.8	4.6
Average per pound, pence	10.6	12.2	9.6	6.4
Average per pound, U. S. cents	19.5	18.6	15.4	11.8

Source: Plantation Rubber Industry in the Middle East, p. 71.

See Table 20 for conversion rate.

It should be noted particularly that the Malayan dollar and Ceylon rupee companies had lower costs than sterling companies in these British possessions.

The same report by Figart shows a further compilation from "a booklet issued by a London firm" in which an attempt was made to arrive at actual all-in costs, as described in the following quotation:

"The term 'all-in costs' in the sense which we have used it, comprises all estate expenditure (other than capital expenditure), staff bonuses, depreciation allowance for buildings and machinery, freight to London or New York, marine insurance, dock charges, and brokers' and agents' commissions, as well as directors' fees and cost of London office administration. In some cases where we have been obliged to estimate one or more of these items our all-in figures may differ from those quoted in the company's annual report. It should be stated, too, that in arriving at the profit for the year we have deducted interest on loans, debenture interest, foreign income tax, and (if known) British corporation tax, but not British income tax or excess-profits duty."

The plantation rubber industry never had to worry much about its costs of production until after World War I, and extravagances of the post-war boom of 1919 were reflected in higher pence costs in 1920 than in 1919, although lower cents cost after conversion at Table 20 exchange rates.

Retrenchment was rapid from 1920 through 1922 in all countries and in 1922, according to the table above, Malaya and Ceylon were showing the lowest all-in costs. The data for other countries is less inclusive than for Malaya, but the general uniformity of trend affords evidence that they were reasonably representative and constitute a suitable background for the following section.

It is noteworthy that, comparing table averages shown in Table 4 with those shown in Table 3, that the all-in costs were much more in excess of estate expenditures in 1919 and 1920 than in 1921 and 1922; economies in overhead costs paralleled those in estate expenditures at the time.

Cost Trend for Malayan Estates, 1921-1933

That costs of rubber production on plantations declined sharply during 1921 and 1922 has been demonstrated. Whether the economies made effective at that time were temporary or permanent is the next point for consideration.

The method usually approved by those calculating costs of rubber production for estates was to adopt an accounting formula or classification of expenses, ascertain costs under each item, and add the items. Comprehensive primary itemized records necessary for such a study are not available.

Some years ago, the writer made summary calculations from reports of plantation companies published in Rickinson's "Rubber Companies Position." The analysis covered 79 identical Malayan sterling estates from 1921 to 1929 inclusive, 85 in 1930 and 1931, 83 in 1932 and 79 in 1933. The results were published in "Rubber News Letter," Circular 3546, U. S. Dept. of Commerce, October 30, 1934.

The method used was to tabulate the annual rubber output in lbs., the income realized (total pound sterling from all sources and pence per lb.), the reported all-in cost (total and per lb.) the revenue distributed through dividends, reserves and "carried forward," and calculated the "over-all out-of-pocket expense" per lb. of rubber for the entire group of companies for each year in British currency.

This method did not exclude the appreciable influence of earnings or losses from other sources than rubber in the case of the companies included. It did not exclude the influence of capital expenditures. Stocks of rubber held by producers at the end of their financial years, were customarily included in their accounts at actual cost of production.

It is believed that the results approximate the average net cost of production of these estates per lb. of rubber for the years covered and that confidence can be placed in the general accuracy of cost trends indicated by the following table. The average price realized per lb. (for all grades), and the average London market price (for ribbed smoked sheets) is also shown. The cost of production was calculated in pence, but in Table 5 is also shown converted to U. S. cents on the basis of Federal Reserve average annual exchange rates.

TABLE 5—Malayan Estates Cost of Production Trend, 1921-1933

	Malayan estates			London market average price
	Approximate net cost of production		Average sales price	R. S. sheets
	Cents	Pence	Pence	Pence
1921	19.61	12.23	12.26	9.56
1922	15.29	8.29	11.18	9.13
1923	18.14	9.52	13.33	15.31
1924	16.70	9.08	14.34	13.88
1925	17.05	8.48	25.99	35.06
1926	19.83	9.86	23.82	23.75
1927	20.88	10.30	18.10	18.44
1928	17.05	8.41	11.90	10.69
1929	12.69	6.28	9.72	10.25
1930	10.17	5.02	5.02	5.91
1931	5.61	2.97	2.99	3.13
1932	3.61	2.47	2.41	2.44
1933	4.34	2.46	2.90	3.25

Source: Rubber News Letter, Circular No. 3546, U. S. Dept. of Commerce. Reference may be made to Table 20 for conversion rates to U. S. cents.

The costs in pence shown in Table 5 for 1921 and 1922 are roughly comparable both in amount and trend to those shown for Malayan companies, and the average for all companies, in Table 4.

Expenses were pruned drastically in 1922 compared with 1921. In 1921 restriction of

TABLE 4—All-In Production Costs of Sterling Companies, 1919-1922

	1919		1920		1921		1922	
	Companies	Pence per lb.	Companies	Pence per lb.	Companies	Pence per lb.	Companies	Pence per lb.
Malaya	64	13.12	64	14.48	64	10.70	60	8.43
Java	8	13.74	8	16.04	8	13.39	8	10.23
Sumatra	10	16.24	10	17.89	10	14.28	10	9.42
Ceylon	12	14.59	14	16.49	13	8.65	13	7.46
Other	22	17.28	22	16.37	22	12.97	21	9.22
Average (unweighted)		14.99		16.25		12.00		8.95
U. S. cents		27.62		24.81		19.25		16.50

Source: Plantation Rubber industry in Middle East, page 75.
See Table 20 for conversion rate.

production by voluntary agreement had affected the outputs of numerous companies and retarded cost reductions.

The British Rubber Restriction Scheme was introduced November 1, 1922 and prices quickly rose, but in the main, the economies instituted by rubber producing companies in 1921 and 1922 were continued thereafter and became permanent. Restriction at first brought only slightly increased operating costs per pound of rubber, as overhead costs were spread over a restricted poundage.

Following the abnormal high prices of 1925-1926, there was temporary increase in expenditure, owing partly to greater liberality in bonuses to estate managers and staff and partly to increased wages, ocean freight, brokerage fees, directors' fees, etc.

In 1928 abandonment of restriction effective Noveember 1 having been announced early in the year, expenses came down notably on a growing, but still curtailed output and with wages unreduced; in 1929, full outputs brought still further reduction to a new low record of costs, well below that of 1922, 1925 and 1928.

From 1928 through 1933, Table 5 indicates that each successive year saw a new low record of pence costs of production, in response to the pressure from extremely low market prices. Since, in the vicissitudes of depression in 1920-21, estates learned methods of saving that stayed in effect through the period of British Restriction despite curtailed outputs, it is similarly to be expected that important economies instituted in the 1928-1933 period likewise became permanent.

Without any intention of minimizing the serious difficulties which the rubber estates, in common, with all agriculture and in fact all industry, encountered during the depression of 1929-1933, the indicated quartering of the 1927 cost of production in 1932 and 1933 is, in itself, evidence that concepts previously held concerning rubber production costs became subject to review from that time on.

The reduced costs that would have permanent effect arose out of improved tapping methods, better utilization of labor, reduced expenses for upkeep of planted areas, higher yields from improved trees and other factors to a large extent independent of the depression. On the other hand, it is to be expected that expenditures for staff and labor were subsequently raised to a proper level and that increases occurred during the subsequent period of International Rubber Regulation in directors' and agents' fees, freight rates, etc.

The statistics on cost of production presented above constitute a conclusive demonstration of the fact that cost of production is not a static figure, but a dynamic one that has changed constantly with conditions, with a long-term downward trend to the end of 1933.

British Sources on Costs, 1929-1935

Corroboration of the representative character of the cost estimates in Table 5 is to be found in statements from British sources. The following statement made over the British Broadcasting System supports the general accuracy of the estimates from 1929 through 1933. The statement was made by Mr. J. W. F. Rowe, whose earlier study in "Artificial Control of Raw Material Supplies—Rubber" issued March, 1931, under the auspices of the London and Cambridge Economic Service of the London School of Economics, has general respect and entitles his testimony to consideration. The broadcast was made February 7, 1935. He stated:

"In 1929 occurred the discovery that the average costs of estate production in Malaya were less than had been generally supposed. During the six years of restriction, the trees had not only had a good deal of rest from tapping, but they had been better cared for, and the methods of cultivation had been much improved, while better and cheaper systems of tapping had also been discovered. The effect on costs had been concealed while restriction was still in force, but when full production was resumed, it was realized that the total costs of production on average estates were between 6 and 7 pence a pound, and that therefore a price of only 9-10d. would suffice to give reasonable profits instead of the 1/-(shilling) which had been considered as an absolute minimum.

"World production in 1932 was roughly 150,000 tons less than in 1929, and the price in 1932 averaged 2¼d. per pound, as compared with 10¼d. in 1929. Seeing that the 1929 price was not specially profitable, one is really inclined at first sight to wonder that anything at all was produced at this 1932 price. Actually, estates in Malaya as a whole produced at about the same rate as in 1929, while the Dutch estates showed an even higher production in 1931, and about the same in 1932.

"It seems simply incredible perhaps, but the whole level of the 1929 costs of production was rapidly scaled down in three main ways. First of all, there were terrific reductions in salaries and wages. Secondly, all but absolutely essential maintenance and cultivation work was given up and the number of men was reduced to the minimum. Thirdly, efficiency in general was increased under the spur of necessity, and certain newly discovered methods were introduced.

"It must be explained, however, that while some estates which could afford it, restricted their output as the price fell in order to conserve their bark against the time when tapping would be more profitable, other estates were driven to tap more severely than is normally desirable, in order to obtain the largest possible output over which to spread their overhead costs, and it was as the result of this balance that the total output of estates showed little change.

"By the end of 1932 a majority of Malayan companies had got their costs down to 3d. a pound or even lower. But you must understand that this would not include proper allowance for maintenance or depreciation, while it must be remembered that salaries and wages are at a bare subsistence level. In other words, such low costs cannot be regarded as a new level of proper normal costs. They represent rather costs of production in an emergency, and as such they can be maintained for perhaps two or three years, but not in the long run. Nevertheless, from the point of view of the companies this reduction of costs is a very fine achievement.

"But I must bring out the other side of the picture. Hundreds of British assistants and assistant managers have had to be sacked, and thousands of wage earners have been returned to India, their contracts cancelled. Those who remained at work were earning, at the end of 1932, rather less than half of what they were earning in 1929. The return of these laborers to their homes in Southern India means for them a poor subsistence level. The lot of the assistant managers has in a way been even worse. Most of them stayed in Malaya living on their savings and hoping to find a job. When their savings were exhausted, they had to fall back on what amounts to Poor Law Relief from the F. M. S. Government. Thus the reduction of costs is, as I have said, a fine achievement from one point of view, but the heavy price in human suffering must not be overlooked."

A Mincing Lane (London) firm which analyzed the results of 89 rubber producing companies for their financial years ending December 31, 1931, provides further material for that year. It was found that for 16 companies the records were complicated by the inclusion of other produce such as tea, coffee, and cocoa; they were therefore excluded. A further 15 companies failed to state their selling price and were also excluded. Of the remaining 58 companies, 51 which produced 21,385 tons of rubber suffered losses, while 7 which produced 2,914 tons made profits by virtue of favorable forward sales. The average 1931 cost of production for the 58 companies was 4.10 pence per pound according to this analysis. This, it will be noted, is considerably higher than the cost stated for 1931 in Table 5, but shows plenty of reduction under the preceding years. The 58 companies included 37 in Malaya, 16 in Ceylon, and 5 in the Netherlands Indies. It was stated in the India Rubber Journal (May 28, 1932) account of this analysis that many of the planting companies received considerable sums in interest on holdings of securities and that this revenue from non-estate sources was not deducted in making the calculations—hence real costs were considered somewhat higher than the 4.10 pence calculated.

Some indication of the approximate costs of production on Malayan estates subsequent to 1933 is to be found in published correspondence between the government of the Federated Malay States and the Rubber Growers Association. The Acting Chief Secretary to Government, F. M. S., in letter of May 2, 1935 stated:

"Dividends are now the rule instead of the exception, not large perhaps, but they will increase as the price of rubber rises." This statement should be considered in comparison with the London market price average for ribbed smoked sheets at 6 7/32 pence for 1934, with the average New York price for ribbed smoked sheets at 12.93c for 1934 and with the average declared value per lb. of U. S. rubber imports at 9.80c for 1934. The letter also quoted the report of the Planter's Association of Malaya for 1934: "A moderate degree of prosperity has been restored to an industry which for years had struggled on the verge of insolvency."

In a further letter of the F. M. S. government to the Rubber Growers Association on March 18, 1936, the results of official analysis of detailed figures for 70 Malayan estates covering 1935 included the following:

"The figures for the sterling companies . . . fall into two groups, for which the average percentages of government charges to profits (the calculation being based on an average selling price of 5.9 pence per lb.) were respectively 26¾% and 22%.

"The profits referred to are not the profits as normally understood, but the profits that would have accrued had no government charges been levied . . . . In respect to two companies in the first group the relation between government charges and profits exceeded 50%. In one of these, however, the directors' fees were 2 1/5 times the duty and nearly ¾ of the rent, the staff bonus and commission equalled the duty, and the f.o.b. cost (exclusive of quit rent) was .47 pence per lb. above the average. In the other case the directors' fees were 1 3/7 times the duty and the staff bonus 11/14ths of the duty. Furthermore, only 64% of the area is planted and the incidence of quit rent in relation to profit is, therefore, higher.

"In the second group in one instance the government levy was 59.4% of the profits. In that case, the London administration charges were 1 1/7 times the duty, the directors' fees were twice the duty, and the f.o.b. cost (exclusive of quit rent) was .61 pence per lb. above the average. It will be appreciated that a reduction in these items to what might be regarded as more normal proportions would have a considerable effect on the relation between government charges and profits.

". . . . Of 17 local estates (Straits currency companies) the average percentage of government charges to profits was 21.17. It should be mentioned that these estates on the average pay much higher rentals than those in the sterling group."

These quotations show that sterling estates were paying worthwhile dividends over in 1936, with an average 1935 selling price of 5.9 pence per lb. They are of interest in pointing out the exceptionally heavy London charges in the case of occasional companies. Also, they indicate that costs of large sterling estates were higher than costs of Straits companies although the latter paid higher quit rents. These quotations are from Supplement to the Bulletin of the Rubber Growers Association entitled "Taxation of the Rubber Industry in Malaya."

Costs on Dutch Estates

Long-term data on the average cost of production on estates in the Netherlands Indies has not been located, but the writer, in Department of Commerce, "Rubber News Letter" circular 3574, May 25, 1935, made the following statement based on analysis of an article published in "De Knoniek" (Amsterdam) March 1, 1935, which included statistics from which the conclusions were drawn:

"The average cost of production is not shown in the article. Separate data is given

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on the individual companies showing wide variation in what is included in costs, and stating the production, and reported cost per half kilo of rubber for various companies, for the last three years. Analysis of this data would indicate, for 41 companies, an average cost of 17.15 guilder cents per lb. for 1931, 12.05 for 1932, and 10.51 for 1933, but these averages are perhaps to be taken with considerable reserve; they are however indicative of trend during the period."

Converted to United States currency at Federal Reserve average annual exchange rates these guilder estate costs compare as follows with the Malayan estate costs in Table 5, in U. S. cents per lb.

TABLE 6—Malayan and Dutch Estate Costs, 1931-1933

(U. S. Cents per Lb.)

	Malayan	Dutch
1931	5.61c	6.90c
1932	3.61c	4.85c
1933	4.34c	4.24c

Considering the wide fluctuations in exchange rates during this period, the comparison is remarkably close, and rather conclusively demonstrates that economies adopted in Malaya were applied more or less equally in the Netherlands Indies. The trend of Dutch estate production costs was therefore probably similar to that of Malayan estates from 1922 onwards and in other countries the results cannot have been far different.

The averaged costs shown in Tables 5 and 6 are designed to show the trend of estate production costs and their variance under different circumstances over the period. For some companies the figures represent the equivalent of all-in costs; for others, who sold in primary markets, they represent f.o.b. costs at ports in the Far East. It needs particularly to be borne in mind that averages do not reveal the range of costs for the individual estates, although as much rubber was produced below average costs as above average costs.

"Costs" of Native Rubber Producers

While on the subject of costs in the Netherlands Indies, data bearing on "costs" of native rubber producers is worth recording. "Costs" in this sense means the prices which caused natives to sell their rubber locally to exporters or remilling factories.

When International Rubber Regulation became effective June 1, 1934, no means existed for the application of a system of restriction by means of individual assessments of production capacity and issue of coupons or rights to export to the individual Dutch native producers. The original quota for the Netherlands Indies was so low, however, that it was necessary to restrict severely the exports of native rubber. This the government undertook to accomplish through a special export tax which did not apply to the exports of estate rubber and proceeds of which did not go into general revenue, but were to be used in native areas on projects considered beneficial to the native population.

The regular export tax on native rubber was 5% ad valorem, and this continued in effect. During part (at least) of the 7 months of regulation in 1934, the additional special export tax was at the rate of 10 guilder cents per kilogram. The rate was increased frequently during 1935 and 1936, an incomplete table of the changes being shown in Table 7.

The American Trade Commissioner at Batavia reported that from the inception of the special export tax to the end of 1936, the government collected no less than 85,097,000 guilders from this source. (Commerce Department, Rubber Circular 3640, April 30, 1937.)

A spokesman for the Netherlands Indies government in the course of Volksraad debate in 1936 on income derived by natives from sale of their rubber, is the source of the following statistics representing exports in terms of dry rubber, metric tons, and the "properly estimated" income derived by the natives annually from 1931 through 1936, figures for the last year being based on results for the first six months of that year. The price calculations represent the effect of conversion of the guilder at Federal Reserve average annual exchange rates.

TABLE 7—Dutch Native Rubber Special Export Tax Rates, 1935-1936

(Guilder Cents per Kilogram)

Date—1935:	Cents
January 1	16
June 1	18
June 16	22
June 30	21
July 22	20
September 30	22
October 13	23
October 18	24
October 23	25
October 30	26
November 11	29
Date—1936:	
January 1	30
February 12	32
July 9	36
August 2	37
September 30	47
October 1	48
October 4	50
October 8	51
October 11	52

With numerous increases in November-December.

TABLE 8—Income of Dutch Natives From Rubber, 1931-1936

	Netherlands Government estimates		Calculated income	
	Exports metric tons	Millions of guilders	Guilder cents per kilogram	U. S. cents per pound
1931	89,000	13.7	15.40	2.80
1932	61,000	4.1	6.72	1.23
1933	116,000	12.5	10.77	2.53
1934	144,000	16.6	11.53	3.52
1935	145,000	17.6	12.24	3.76
1936	153,000	20.0	13.07	3.82

That the government spokesman was estimating income rather high was the tenor of remarks from the opposition during the debate, but accepting these estimates at face value, Dutch native producers received less than 4c U. S. per pound for their output during each of six years in succession.

The table shows that production was restricted very severely by the extremely low price equivalent to 1.23c U. S. per lb. in 1932, and considering that the 1937 output (following general introduction of an individual restriction system for the natives on January 1) amounted to 205,989 long tons, it is apparent that the 1936 price continued sharply restrictive.

These facts are believed to warrant an estimate that the amount of Dutch native rubber produced would increase greatly at rising price levels—that at a local sales price of 1c U. S. per lb. production would continue to some extent, that at 4c the production would be three to four times greater and that at about 7c production would approximate labor capacity, if exports were not restricted and were free of tax. This range of selling prices would be comparable with f.o.b. costs for estates, not all-in costs, for which in some cases remilling costs and in all cases costs of ocean freight and insurance would be added.

Taken in conjunction with the amount of the special export tax reported by the American Trade Commissioner and allowing also for the 5% ad valorem regular export tax on native rubber, the export taxes appear to have accounted for fully two-thirds the value of the Dutch native rubber exported during the first two years and 7 months of International Rubber Regulation. In the closing months of 1936, taxes accounted for over 85 per cent of the total value of the rubber exports by Dutch natives.

In the course of a "Memorandum on Rubber Supplies to the U. S. A. over the years 1940/41" prepared by Sir John Hay and issued by the IRRC in October, 1943, in rebuttal of testimony before the Truman Committee, there was included the following paragraph bearing on costs of native rubber from British Malaya, delivered at New York.

"In the course of evidence before the Truman Committee, it was stated that 'the natural rubber produced certainly did not cost more than five cents on the average'; and by way of amplification, it was further stated that 'the native plantations would continue to produce rubber down to about 2¾ or 3 cents (U. S.) a pound'. Since these figures were directly contrasted with the price charged for rubber landed in America, it must be presumed that the cost figure was meant to include insurance, freight, and the charges for selling which fall on the producer. In 1941 the actual cost of these items, plus export duty which had long been imposed by the governments of Malaya for revenue purposes, was equivalent to 2¼ dollar cents (U. S.) per lb. Moreover, before it can be made fit for export markets, the bulk of the rubber which comes from what are termed 'native plantations' has to be remilled and repacked—operations which might cost 2½ cents per lb. Allowing for these inescapable items of expenditure, the figure of cost given by the witness before the Truman Committee would leave the poor 'native' producer with nothing but the certainty of loss."

The memorandum went on to say that "costs of a particular class of producer or of a hypothetical average producer were not only inaccurate but also irrelevant", and that (in the effort for maximum production) "it was essential to bring in every class of producer, whatever his category and that could only be done by fixing the price at a level which was profitable to all. The basic price was, in fact, fixed at 18 to 20 cents per lb. c. i. f." In this paragraph, the Committee therefore recorded its opinion that a delivered price of 18 to 20 cents New York was profitable to all producers in 1940-41.

COSTS OFFICIALLY REPORTED UNDER INTERNATIONAL REGULATION

The background information furnished above is intended to provide perspective for consideration of reports on costs of production of large estates in various regions during the period of International Rubber Regulation, as prepared for the IRRC.

The International Rubber Regulation Committee secured special cost of production statistics from the Rubber Growers Association (London), the International Association for Rubber Culture in the Netherlands Indies (Amsterdam), and for French Indo-China from Colonel Bernard, representative of France on the Committee.

These cost statistics were allowed guarded dissemination among members of the International Rubber Regulation Committee including Advisory Members, and through the American Advisory Member were made available to the Department of State and some members of the rubber manufacturing industry. They were at the time withheld from publication. However, in the "IRRC Memorandum on Rubber Supplies to the U. S. A. over the years 1940/41," forwarded by the Embassy from London October 7, 1943, the IRRC stated in reference to evidence before the Truman Committee: "Ever since its inception, the IRRC has been collecting and tabulating figures relating to the cost of estate rubber, and these figures (calculated according to an agreed formula) were made available regularly to the American representative on the Panel of Consumers. It is surprising that this authoritative, carefully compiled, information was not submitted and examined, and that weight should have been given to statements more emotional than factual." Since the Truman Committee evidence was given publicity, this statement implies that similar publicity to the IRRC estate cost data would be proper.

In contrast to the background data heretofore presented, which are mostly based on overall considerations and practical experience in the principal markets as reflected in the tables and reports reviewed above, the costs determined for purposes of the IRRC were based on an accounting formula.

The terms of reference of the RGA Subcommittee which dealt with this subject were as follows: "To suggest a costing formula which would form a suitable basis for the collection of costs to determine what is a 'fair and equitable price level which will be reasonably remunerative to efficient producers,' the investigation to relate only to a period in which

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production is being regulated, and to be confined to British countries."

Since the costs related to the regulation period, they were affected by the rate of restriction. The costs reported by the IRRC and presented below therefore should be considered in connection with the percentages of permissible exports in effect for corresponding periods.

TABLE 9—Rubber Price Range and Quarterly Permissible Exports

		Quarterly Permissible Export (percentages)	New York Daily Market Prices Plantation Ribbed Smoked Sheets (Cents per lb.)	
	Quarters	Per Cent	High	Low
1934	1	....	11 5/8	8 3/4
	2	100, June	15 1/2	11 1/4
	3	93 1/3	15 3/4	14
	4	76 2/3	14 1/2	12 13/16
1935	1	75	13 3/4	10 1/2
	2	70	12 7/8	10 1/16
	3	65	12 1/4	11 1/4
	4	60	13 9/16	11 3/4
1936	1	60	16 1/16	13 1/2
	2	60	16 1/8	15 7/16
	3	65	16 5/8	16 1/8
	4	65	23	16 5/16
1937	1	75	26 7/8	20 9/16
	2	80	26 7/8	18 1/2
	3	90	19 5/8	17 1/2
	4	90	17 3/4	14
1938	1	70	15	10 1/4
	2	60	14 11/16	11 1/8
	3	45	16 5/16	14 3/4
	4	45	17 5/16	15 5/8
1939	1	50	16 1/2	15 1/4
	2	50	16 1/8	15 1/2
	3	60	23 1/4	16 3/8
	4	75	20 5/8	19
1940	1	80	19 3/4	18 5/16
	2	80	23 1/2	18 3/8
	3	85	22 1/4	19 1/8
	4	90	21 7/16	19 5/8
1941	1	100	23	19 1/8
	2	100	24 7/8	21 3/8
	3	100	23	21 1/2
	4	120	24 5/8	22 5/8

Prices from: The Rubber Age, New York.

Except in the case of Indo-China, where production was not actually restricted, many costs had to be distributed over a smaller poundage of product when the rate of permissible exports was low than when it was high; the normal effect would therefore be increased costs per lb. as the percentage of permissible exports declined.

It was estimated by Mr. James J. Newman of B. F. Goodrich Company in November, 1936, that at 75% permissible exports, an estate with a 100% yield of 400 lbs. per acre annually could deliver rubber to New York at an all-in cost .98c per lb. lower than at 60% permissible exports. This indicates the considerable cost effect of this factor theoretically, under the much wider range of permissible exports shown in the preceding table.

The New York high and low market prices for each quarter are also shown in the table, and analysis will show that during the 18 months ended December 1936, and again during the 18 months ended September 1939, a severe restriction was practiced so long as the price did not exceed 17 cents. Buyers were reluctant to pay over 16 cents average price in the New York market, and the table indicates this did not satisfy Committee objectives.

The formula used by RGA to compile the all-in costs of production for estates in Malaya, Ceylon and other British possessions listed the following main headings:

1. Capital cost
2. Revenue cost f.o.b.
3. Freight and selling
4. Head office expenses
5. Depreciation or wear and tear
6. Profit sharing arrangements
7. Amortization of estate

The capital costs were in 1936 taken at £6.94 *per acre* for buildings and machinery and £34.98 per acre of planted rubber.

The f.o.b. costs covered actual labor, material, and service costs of operation (tapping, preparing the rubber, packaging, upkeep, superintendence, hospital facilities, etc., shipment to port of export, and port charges) plus (apparently) local taxes, quit rent and export duty. Itemized costs under this heading were not released.

The third item covered overseas transport and entry into the United Kingdom, plus brokerage on sales and in late 1936 was calculated at .60 pence per lb. Higher freight and insurance costs during the later regulation period and, particularly after the war began, increased this item.

Head office expenses are understood to cover directors' fees, agents' fees, and office costs in London. The RGA Sub-committee found wide variation in this item as between companies. At first they recommended .40 pence per lb. for this item, but in October 1936 reduced it to .30 pence per lb.

Depreciation, or wear and tear on buildings and machinery was figured at 7½% of this capital cost, distributed over approximately 400 lbs. average production per acre at 100% permissible exports, or a lower poundage based on the degree of restriction in effect for the period.

The Subcommittee originally recommended an average of .20 pence per lb. to cover bonuses to estate staff or labor and similar profit sharing costs, but in October 1936, lowered this to .10 pence per lb. as "a safe minimum" in their opinion.

Estate amortization was taken at 4% on that capital cost, the Subcommittee recommending that average productive economic life of trees be taken at 25 years, that is, 30 years from date of planting, as a fair assumption. This was distributed on the same "lbs. per acre" basis as depreciation.

Returns were secured from a representative cross-section of organized estates in Malaya and the Netherlands Indies, and (beginning 1937) from Ceylon. The data provided for Indo-China was even more fully representative.

At the May 31, 1938 meeting of the International Committee, the following summary of annual results for the three preceding years was presented, covering all-in costs of large estates.

TABLE 10—Annual All-In Costs—Large Estates, 1935-1937
(Pence per Lb.)

	1935	1936	1937
Malaya	6.03	6.13	6.15
Netherlands Indies	6.66	6.20	5.24
Indo-China	5.79	5.51	5.49
Ceylon	...	...	6.66

The figures were stated to represent roughly 44% of total estates in Malaya, 40% in Netherlands Indies, 73% in Indo-China, and 25% in Ceylon.

The figures in pence per lb. for Netherlands Indies and Indo-China were influenced by devaluation of their currencies from the end of September, 1936. British currency had been devalued in late 1931.

The returns were compiled monthly for Malaya and Ceylon, quarterly for Netherlands Indies and Indo-China. The following table shows quarterly statistics for 1935-1937, returns for Malaya based on averaging monthly reports differing slightly from the overall annual results shown above.

TABLE 11—Quarterly All-In Costs for Large Estates, 1935-1937
(Pence per lb.)

	Quarters	Malaya	Netherlands Indies	Indo-China
1935	1st	6.06	6.65	6.70
	2nd	6.15	6.46	6.08
	3rd	5.92	6.87	5.86
	4th	6.08	(*)	5.11
Average		6.05	6.66	5.79
1936	1st	6.35	6.95	6.26
	2nd	6.39	7.28	6.06
	3rd	5.98	6.23	6.01
	4th	6.06	4.98	4.39
Average		6.18	6.20	5.51
1937	1st	6.21	5.35	5.98
	2nd	6.44	5.07	6.13
	3rd	6.04	5.15	5.29
	4th	5.92	5.49	4.87
Average		6.17	5.20	5.49

*No return.

Indo-China continued unrestricted production under the terms upon which this French possession participated in the International Agreement, and this resulted in materially lower cost there than elsewhere, except in 1937. The fluctuation in quarterly costs in Indo-China arose mostly from the seasonal changes in volume of production, very high in the final quarter, low in the first half.

The fluctuations in quarterly costs in Malaya and Netherlands Indies arose partly from seasonal changes in volume of production, but more from effects of the varying percentage of permissible exports, complicated in the latter case by devaluation of Dutch currency in late September, 1936. Incidentally, the statistics for American companies owning rubber plantations in these countries are understood not to have been reported for these tabulations.

In Malaya, the quarterly costs fluctuated less than in the Netherlands Indies, except in 1937 when the permissible export percentage was high. Malayan internal regulation was so administered, through over-assessment of estates and under-assessment of small holders, as to permit estates to operate at a "percentage of real capacity" higher than the "percentage of permissible exports", while in the Netherlands Indies the estate assessment were more in line with their actual capacity for production, and hence estate operations there had to correspond more closely to the permissible export rates. In fact, estates in Netherlands Indies had a higher assessment production capacity than their quota, and suffered a percentage restriction before application of the permissible export percentages.

Converting values at Federal Reserve annual average exchange rates as shown in Table 20, the annual cost estimates compiled for the IRRC imply that the "average" estates in Malaya and Netherlands Indies earned "real" profits during these years only to the extent that their sales price for rubber, in terms of United States currency, was above:

TABLE 12—Indicated Prices at Which Estate Profits Began, 1935-1937
(U. S. cents per lb.)

	Malaya Cents	Netherlands Indies Cents
1935	12.31	13.60
1936	12.70	12.84
1937	12.66	10.80

The New York market price for ribbed smoked sheets in 1935 was 12.37c, and in 1936 was 16.51c, while the average import value per pound of rubber (all grades) reaching the United States in 1935 was 11.39c, and in 1936 was 14.93c. Most estates paid small dividends for 1934 and 1935; dividends improved for 1936, and were in numerous cases excessive for 1937.

The costs returned above for estates were higher than their costs as reported in annual statements of individual companies. The RGA Subcommittee, in respect to estates in Malaya and Ceylon, offered the following explanation in October, 1936:

"It is the case that many companies make no annual charges for Depreciation or Wear and Tear and accordingly show a lower cost of production. This came about as follows: Prior to the slump many companies had created large reserves either from profits or from the issue of shares at high premiums. There is no legal obligation on a Company to provide for loss of fixed assets before paying a dividend, but nevertheless it is customary to provide for Wear and Tear and any Company which does not, usually receives a qualified Certificate from its Auditors. It is perfectly competent for any Company to meet the charge for Wear or Tear either from current or accumulated profits. As accumulated profits were so much greater than current profits in recent years, many Companiees chose to debit Wear and Tear to the former and to save the trouble of an annual charge, with a recurring explanation, wrote off the whole balance in the Building and Machinery account in one amount. This purely financial arrangement makes not the slightest difference to the actual rate at which Depreciation or Wear and Tear is occurring on the estates. It is this actual rate of depreciation today which is the true current cost and that is the charge which your Committee have investigated and approved. It is impossible to reconcile published costs of such Companies with the true cur-

rent cost. In effect their published costs are understated and to that extent they are living on their accumulated fat, which is not necessarily an unhealthy proceeding. Your Committee trust if they have not reconciled they have at least accounted for this discrepancy adequately.

"The letter from the Secretary of the IRRC is correct in stating that it is not the practice of British Companies to charge Amortization of the Estate against their profits. It is also true that transfers from profits to Reserve have not been a noticeably common feature of recent Accounts. It is even more evident, to producers at least, that the price has not risen to that level which covers cost and is reasonably remunerative. Until that state has been reached, producers can only choose between various deserving causes.

"On the assumption, however, that the price will rise to the necessary level, the question of providing for Amortization requires serious attention. Hitherto the rubber industry has been constantly expanding and it has been possible to argue that such plantings in as far as they were done from reserves were a provision for Amortization. That method is now closed and failing replanting, which in British territories is not being undertaken at anything like the permitted rate, it is only a question of a comparatively short time before the whole capital assets of a Company have been consumed.

"In the Report of the original Costs Sub-Committee it was pointed out that there are two ways of Amortization, either by provision for Capital replacement or by the payment of high dividends. The latter is the common method of Mining Companies and any one investing in such Companies is presumed to regard his dividends as being partly a return of Capital. This has not been the common attitude towards Rubber Companies, partly because the life is uncertain and mainly because it was a young and expanding industry. Some commonly accepted policy is desirable to escape otherwise inevitable misunderstanding. To pronounce on this question is not within the terms of reference of your Committee, but they would say that it is only by adopting one particular policy that the discrepancy to which the IRRC refer can be ended."

In the later years of regulation, the IRRC made effective a definite policy under which, by replanting a certain acreage each year with high-yield trees, the large estates were gradually modernizing their plantations. Continuation of this policy would but for the War have prevented estate obsolescence, and hence rendered less necessary the allowance for amortization of planted acreage. Higher prices were then in effect, however, and an accountant would provide for replanting costs to take the place of amortization. Many progressive estates had adopted this policy even in the 1920's.

At a meeting of the IRRC when costs were discussed from the angle of competition with plantation rubber produced by native smallholders, "the gist of the discussions was that the natives are in general probably the cheaper producers and the rubber which was needed for world supplies would be obtained from both estates and natives; but the price at which sufficient rubber would come forward would be determined by the cost of production of the highest *efficient* estate producer."

The concept expressed in these words deserves repetition in this study. This idea means that, if the world needed 1,000,000 tons of rubber and 500,000 tons could be produced profitably at 6c per lb. and only another 400,000 tons could be produced profitably at 10c per lb., the world would have to pay whatever price was necessary to make it profitable to produce the remaining 100,000 tons. As a theory and for a short term of years, this concept appeals to the writer as having much merit, but implied fixity of costs for a long term seems not fully warranted on the evidence.

Experience shows that rubber costs have come down to meet price conditions in the past. In other words, when money was difficult to obtain and the world was unwilling to pay a profitable price, the producers of rubber, albeit unwillingly, produced what the world needed at the price the world was then willing to pay. Unduly low prices are as undesirable as unduly high prices, but both prices and costs are dynamic rather than static.

The evidence sufficiently proves that average all-in costs of rubber production during 1935-1937 were considerably higher than in 1931-1933. Although costs have declined in long-term trend throughout the existence of the plantation rubber industry, this has not always been true for short terms. Depression costs do not constitute a fair barometer, whether the crop be rubber, corn, wheat or potatoes. Costs move upwards as well as downwards depending on conditions.

Although cost of production statistics were prepared for the IRRC subsequently, the series available in the United States is incomplete.

The monthly statistics shown below for Malayan estates indicate that the accounting formula results continued to show rising costs in 1939 and surprisingly even in 1941 despite then high production.

TABLE 13—Monthly All-In Estate Costs—Malaya, 1937-39-41

(Pence per lb.)

	1937	1939	1941
January	5.75	6.68	7.10
February	6.23	7.13	7.38
March	6.74	7.74	8.01
April	6.81	7.99	8.10
May	6.38	7.31	8.03
June	6.18	7.17	....

Malayan costs aside from depreciation and amortization were reported in the monthly reports for 1939 and 1941, averaging 5.42 in the 1939 period and 6.53 in the 5 months of 1941. The average allowance for depreciation and amortization in the first half of 1939 was 1.91 pence per lb., and in the first five months of 1941 was 1.19 pence per lb. The cost per lb. for these items declined in 1941 because production per acre increased in line with the higher percentages of permissible exports.

Monthly statistics for all-in costs in Ceylon are available for the following dates. The computed Ceylon costs were lower than the Malayan figures during the last month for which data is at hand, although Ceylon costs were higher than Malayan in 1937. Ceylon production is highly seasonal, and costs per lb. were normally high in February-March, the wintering season when tapping is usually much reduced.

	Pence per lb.
1939:	
February	16.57
June	7.65
1941:	
February	16.98
May	7.73

In late 1941, an earlier export duty of 2½ rupee cents per lb. was reimposed on rubber exports from Ceylon for purposes of revenue.

The only subsequent report available for Indo-China shows average all-in costs of 4.53 pence per lb. for the fourth quarter of 1938 and 4.71 pence per lb. for the full year 1938, which is much lower than the average of 5.49 pence for the full year 1937. Costs in the British countries, where production was actually restricted in 1938 very severely, were generally showing a rising trend, but in Indo-China the decline in costs was very pronounced.

The statistics for Indo-China particularly for 1938, supposedly computed under about the same formula as that used by the Rubber Growers Association provide basis for an argument that the IRRC returns reported for Malaya were unduly high. On the other hand, in Indo-China the percentage of trees raised from selected seed and/or budgrafted was higher than for any other country and annual yield per acre there has compared favorably with other countries.

Range of Costs for Estates

Hitherto this analysis has dealt with average costs for groups of estates by countries. These averages or norms throw no light on the range of all-in costs for different estates comprising the groups, although in connection with Dutch natives a rough estimate was ventured.

The reports on costs prepared for the IRRC show not only the computed average costs, but also statistics revealing the range of costs for estates in Malaya and the Netherlands Indies.

Table 14 (see below), presented at the meeting of the IRRC on May 31, 1938 summarizes these data. It states the percentages of estates' output produced at or below specified costs for 1935, 1936 and 1937. For example, in 1935, 88.2% of the rubber from Malayan estates was produced at 6.50 pence per lb. or lower, while in 1937, 95.3% of the rubber from Dutch estates was produced at that cost.

The statistics in Table 14 may be translated to show the percentage of the production accomplished in years covered at any desired range of price, instead of cumulatively. To aid analysis the statistics are set up in Table 15 (see p. 42.)

Over the three-year period, about 81% of the production of estates in Malaya and Netherlands Indies was produced at a cost under 6.75 pence per pound. Under the concept advanced in the IRRC discussion referred to above, the additional amount of rubber that would be produced at higher all-in selling prices would be only about 19% of the estate total, or say 10% of the world plantation total, taking the computed costs at face value and assuming as seems generally agreed that these costs are higher than the costs of other groups of producers.

Charts are included showing these percentages of rubber produced at various costs (pence per lb.) of production on large estates in British Malaya and the Netherlands Indies. Chart I shows the simple percentages at the various cost levels, cumulative percentages at the same cost levels, the simple and the cumulative, composite percentages averaged for both Malayan and Dutch estates over the three-year period.

Chart I pictures the ability of Dutch estates to lower their costs in 1936-1937 while costs in Malaya increased slightly. Devaluation of Dutch currency in 1936 was a factor in this

(*Continued on p.* 42)

TABLE 14—Estate Outputs Produced at Various All-In Costs, 1935-1937

Production costs (pence per pound)	Cumulative percentages of production — Malaya			Netherlands Indies		
	1935	1936	1937	1935	1936	1937
Under 4.75	...	....	....	0.2	13.5	22.8
Under 5.00	2.5	1.4	....	0.2	19.9	34.1
Under 5.25	12.1	1.4	15.9	2.8	24.8	62.4
Under 5.50	12.1	12.2	15.9	10.1	29.4	70.7
Under 5.75	31.6	26.9	27.1	13.1	32.9	77.8
Under 6.00	47.0	53.7	43.5	18.4	37.4	81.8
Under 6.25	71.4	74.7	61.2	30.1	48.7	90.6
Under 6.50	88.2	74.7	78.4	48.4	57.2	95.3
Under 6.75	88.2	92.2	84.4	59.2	67.4	95.3
Under 7.00	92.6	92.2	84.4	68.1	69.8	96.8
Under 7.25	96.2	95.8	88.4	80.8	70.0	98.0
Under 7.50	97.6	96.6	94.3	86.4	78.0	98.4
Under 7.75	97.6	96.6	94.3	90.9	82.0	98.9
Under 8.00	99.0	96.6	97.3	94.3	89.0	99.0
Under 8.25	99.0	98.5	98.1	96.1	91.5	99.2
Under 8.50	99.0	98.5	98.1	96.3	95.7	99.5
Under 8.75	100.0	98.5	98.1	96.9	95.9	99.6
Under 9.00	100.0	98.5	100.0	98.3	96.6	99.7
Under 9.25	100.0	100.0	100.0	98.8	98.0	100.0
Under 9.50	100.0	100.0	100.0	98.9	98.0	100.0
Under 9.75	100.0	100.0	100.0	99.4	98.4	100.0
Above 9.75	100.0	100.0	100.0	100.0	100.0	100.0

Date Reset In Humble Hearing To Resist Refinery Seizure

Special to NPN

DALLAS, Tex. — Federal Judge William H. Atwell has reset the hearing scheduled in his court Sept. 13 in which Humble Oil & Refining Co. seeks to enjoin the WLB and other government agencies from seizing the company's refinery at Ingleside.

The hearing will be held on Sept. 21. Judge Atwell moved the date back when Frank Potter, assistant U. S. district attorney, told the court the government was not ready, and said Humble attorneys had agreed to the delay.

Judge Atwell specified that the temporary restraining order he issued would remain in effect until after that date. Judge Atwell granted the injunction after Humble attorneys presented a petition affirming that WLB and other federal bureaus had conspired to seize the big plant following Humble's refusal to comply with a WLB order calling for maintenance of union membership.

Meanwhile H. C. Wiess, Humble president, denied Washington reports that Humble would agree to a settlement of the case out of court.

General-Penn Refining Official Elevated to Rank of Major

NPN News Bureau

CLEVELAND—A former oil refining company president, H. P. Barton, General-Penn Refining Co., Baltimore, has been promoted to the rank of Major in the Quartermaster Corps, Fuels and Lubricants Division, a recent War Department announcement states.

In addition to Major Barton, three other oil company executives have been advanced to the rank of Major. These are: Ralph T. Bratt, one time supervisor of oil burner and fuel oil sales for the Hackensack District, Standard Oil Co. (New Jersey); Robert J. Finigan, formerly a mechanical engineer in the Bayway Refinery of Jersey Standard, and Robert H. Hahn, formerly a research chemist at the Sugar Creek, Mo., refinery of the Standard Oil Co. (Indiana).

5000 Chemists Hear Kettering Reveal Marvels Of Triptane Performance in New York Session

NPN News Bureau

NEW YORK — More than 5000 chemists and industrialists participated in the 108th meeting of the American Chemical Society here last week, at which one of the most newsworthy developments was the disclosure by Charles F. Kettering, vice president of General Motors Corp., of bulk production of a new fuel having as much as four times the power obtained from present 100-octane gasoline.

The production of triptane, which multiplies the power of 100-octane gasoline, was described by Mr. Kettering as just a "laboratory curiosity" for many years until General Motors laboratories recently found a way to make 99% pure triptane in tank car quantities. He said that although details of the fuel still cannot be revealed because of war secrecy restrictions, it is now being produced at the rate of 10 barrels daily in a large-scale pilot plant.

Triptane was discovered in 1922 by a Belgian chemist. Mr. Kettering said sufficient quantities already had been made to permit extensive testing in airplanes and other war equipment. A twelve-cylinder Allison plane, with rated take-off horsepower of 1500 with 100-octane, developed well over 2500 horsepower with triptane and lead tetraethyl blends.

Triptane, which was originally made by a "rather laborious" laboratory method using metallic magnesium, cost $35 a gallon five years ago, Mr. Kettering said. He added that the new method utilizes a relatively simple procedure.

Power Multiplied by Four

He said that tests have shown that gains possible with triptane, especially when lead tetraethyl is added, depend upon the particular engine and the conditions of operation, but have amounted to as much as four times the power with a quarter less fuel than is required with 100-octane gasoline. He predicted that the commercial development of the new fuel would lead to an extensive engine development program.

Mr. Kettering expressed the opinion that after the war triptane may be manufactured at a cost of 50 cents to $1 a gallon.

Several hundred papers and addresses, reporting wartime research in practically every branch of chemical science and industry, were presented at the five-day sessions.

The Priestley Medal, highest honor given by the society, was presented on Sept. 13 to Dr. James Bryant Conant, president of Harvard University. Dr. Arthur C. Cope, associate professor of chemistry in Columbia University, received the $1000 American Chemical Society award in pure chemistry.

Dr. Conant, in his address after receiving the medal, called for a federal scholarship program for young men who give promise of becoming leaders in science and technology. He also warned against the extravagant use of funds for research in industrial laboratories.

Dr. Conant urged a minimum of government control and direction in scientific research, said that industries should refrain from "raiding" universities for promising young professors, and added that universities in turn should give their best research scientists more time from teaching for pure research.

Praised by Baruch

Dr. Conant's work in preparation of the national rubber program was praised by Bernard M. Baruch, special adviser to the War Mobilization Administration. Mr. Baruch said that he had become profoundly impressed with "the need of a greater use of trained scientific practical minds to help solve the many economic and social problems that face us".

"Catalysis in the Petroleum Industry" was the central theme of a symposium of the petroleum division. The division also held a round table on bench-scale techniques in addition to general sessions under the chairmanship of Dr. Cecil L. Brown of the Standard Oil Co. of Louisiana.

Perfection of a new method of testing oils to prepare for the lubrication of high-speed, high-compression, post-war motors was announced at one of the society's gatherings by Dr. E. C. Hughes, director of chemical research of Standard Oil Co. of Ohio. Dr. Hughes said that under the new method the oil was scientifically examined in a specially designed test tube. He said that although the examination requires 36 hours, many such tests can be made at the same time with the results paralleling those revealed by using an engine.

Dr. Hughes said that lubricating oils already perfected and those still to come would lengthen the life of the postwar automobile and be particularly helpful in bus, tractor and truck operations.

Newly elected officers of the Division of Petroleum Chemistry are: S. S. Kurtz, Jr., Sun Oil Co., chairman; C. L. Thomas, Universal Oil Products Co., vice chairman; C. R. Wagner, consultant, re-elected secretary. Members of the executive committee include C. L. Brown, Standard Oil Co. of Louisiana, and W. E. Bradley, Union Oil Co. of California. Mr. Brown is retiring chairman of the section.

Refinery Nears Completion

Special to NPN

LOS ANGELES — Standard Oil of California has advised its stockholders that two main units of the 100 octane plant being constructed at the Richmond refinery will be completed in September and October. The final unit, the report said, the Thermofor Catalytic Cracking structure, will be completed by mid-November.

Virginia's Natural Bridge

Natural Bridge, the world's seventh wonder, crossed by Highway No. 11 fourteen miles southwest of Lexington, has become a national landmark, so closely is it associated with the tradition, history and romance of America. Chief Justice John Marshall called it, "God's greatest miracle in stone." The bridge spans a river and carries a highway.

Man first discovered Natural Bridge only a few hundred years ago, but Nature, through millions of years, has worked with patient labor and magnificent skill to construct here a monument that will stand for all time. Her working material was 450,000 cubic feet of rock weighing 36,000 tons. Her tool was a simple mountain stream flowing toward the seas. With these she achieved her miracle—a bridge of solid stone ninety feet across and 215 feet high. She painted her masterpiece with dull red and ochre, soft shades of yellow and cream, delicate tracings of blue and gray. Thus is revealed the amazing properties and power of Nature's chief tool, a drop of water, the most vital thing with which Life has to deal!

It Didn't Just Happen...

E. L. Drake discovered oil on a Pennsylvania farm just 85 years ago, but what he found had taken Nature more than a million years of "patient labor and magnificent skill" to produce—a product which, next to water, was destined to become one of the most vital necessities of present day life. Today the world is not only heated and lighted by oil, it is powered by oil and lubricated by oil; it builds with oil, it rides on oil, IT FIGHTS ON OIL! Truly the magic of oil is circumscribed only by the quality of thinking—the mental resources of those who make up the oil business and the new industries that stem from it. Much of the progress already attained is the direct result of the brains, alertness, thoroughness, expert craftsmanship and "magnificent skill" of those who have allied themselves with the oil industry. Here at International, we take great pride in the industry of which we, as manufacturers of lubricants, are a part. We hold high the products we make and sell, for, in addition, to the finest quality basic materials and the best in plant equipment, they contain the manpower components of native ability, technical training, experience, love of work, and THE WILL TO SURPASS!

The line between mediocrity and surpassing worth is not difficult to cross. Here, too, the difference would lie in the quality of thinking that governed the work. The definite result you obtain from any product made in our plant was charted by our chemists and engineers in our laboratories and proven under strict supervision before a pound or a gallon of that product can be offered for sale. International Lubricants don't just happen to be right, *they are made that way!* Farsighted refiners and distributors, who like ourselves are devoted to the ideal of planned products and service, are invited to communicate with us.

INTERNATIONAL LUBRICATION

International

LUBRICANT CORPORATION

New Orleans *Louisiana*

Roaring Plane Engine Reveals Operating Secrets As Jersey Standard Unveils Huge Test Stand

By Frank P. S. Glassey,
NPN Staff Writer

BAYWAY, N. J. — The first full-scale engine test stand designed for research on aviation fuels and lubricants was unveiled here on Sept. 19 before more than 100 representatives of the press and government and military officials at the refinery of Standard Oil Co. (N. J.).

With a 240-ton block of concrete as an anchor, an aircraft engine which could carry a plane through the air as fast as 400 m. p. h. stood still while scores of instruments revealed information, hitherto unascertainable, concerning the power and performance of super-fuels, including the newly developed triptane.

Information obtained from the test stand is expected to result in conservation of raw materials, such as crude oil, for high octane fuels. It was also anticipated that it will stimulate improvement in the 100-octane gasoline now used by Allied air forces.

The test stand operators said that their primary problem would be aviation engine knock, which threatens an aviation engine with destruction in a few seconds. Jersey Standard engineers said that the chief limiting factor in aviation fuel performance today is the fuel's tendency to knock under increased power conditions.

1500 h. p. Engine Tested

Operation of a 1500-horsepower engine on the test stand was demonstrated by Standard Oil Development Co. technologists, who said that engines exceeding 2500 horsepower can be tested under simulated flight conditions. Huge blowers furnish a cooling air stream which is closely regulated for velocity and temperature. Air temperature can be maintained at 100 degrees F., even though the initial air taken from outside may be as cold as zero. Another blower supplies air for the carburetor with intricate controls regulating pressure and temperature over a wide range of flight conditions.

Temperature readings in the engine can be automatically recorded from 48 points within one minute, thus facilitating testing of expensive experimental fuels which so far have been made only in small quantities in laboratories or pilot-scale plants.

Operators in Adjoining Room

Because of the great sound produced by the engine, no one was able to remain in the test stand room while the engine was operating. Heavy soundproof construction of the walls and artificial sound-absorbing stone packed in the air inlet and outlet stacks greatly lessened the sound reaching the outside area. Standard engineers said that sound issuing from the stack should have less than 1/256th of its original energy.

Operators in an adjoining instrument room protected from the intense sound in the test room by a 16-inch concrete wall automatically control all tests. The operators are able to make their observations through three windows in the wall. The control room floor on which the instruments are based is isolated from the rest of the structure by being built as a separate unit on blocks of cork which absorb the vibration. Instead of delivering power through a propeller, the test engine is connected to a dynamometer, which absorbs and measures the power, and which is electronically controlled to meet precise research standards. Two fire protection systems, both using inert gas, have been installed.

In addition to the operation of the engine for fuel tests, aviation lubricants will also be tested.

Early in the war, when the need for increased production of 100-octane gasoline was apparent, construction of new aviation testing facilities was deferred so as to concentrate every effort on expanding plant producing facilities and constructing toluene and synthetic rubber plants. Early in 1943, Jersey Standard started plans for the present test stand. With the backing of military and governmental departments, the company formulated detailed designs, and construction of the stand, entirely at the company's expense, was begun late last year.

Program in Synthetics Launched by Ickes

NPN News Bureau

WASHINGTON—Secretary Ickes this week gave the "kick-off" in the Bureau of Mines' $30,000,000, five-year, synthetic-petroleum production program. Initial operations, financed by a $5,000,000 Congressional appropriation, he announced, are under way.

With one survey for an oil shale demonstration plant already started in the Colorado-Utah area and with Bureau engineers planning similar surveys across the nation, Secretary Ickes said preliminary studies would provide the "know-how" for private commercial production of oil and gasoline and other petroleum-like products from U. S. reserves of coal, lignite and oil shales, and from agricultural and forest products.

All synthetic liquid fuel research on agricultural and forest products, it was said, would be conducted under the Department of Agriculture's supervision.

Bureau engineers making the Colorado-Utah survey have established headquarters at Rifle, Colo., and are examining the 25-mile area between Rifle and DeBeque, known as the Piceance Creek basin.

Three Plants Proposed

Two demonstration plants are planned for coal and agricultural and forest products and a third for oil shale, plus small pilot plants for each of the three. The problem will be to adapt processes already in use in England and Germany to American coals and American oil shales, so far as the Bureau is concerned, and to find the means to reduce production cost so that private commercial manufacture will become economically feasible.

"At the present state of development," Ickes said, "synthetic fuels are considerably more costly than those obtained from petroleum."

Two processes now used to convert coal or lignite to liquid fuel are direct hydrogenation, which is employed in both England and Germany, and gas synthesis, used most widely in Germany.

The Bureau of Mines' studies on coal hydrogenation, dating back to 1936 in a unit at the Central Experiment Station in Pittsburgh, have provided technical information needed to operate a large-scale hydrogenation plant, Ickes asserted. In the hydrogenation process, experimenters discovered, about 30 gallons of gasoline are obtained from a ton of lignite and about 60 gallons from a ton of high-volatile bituminous coal.

In the gas synthesis process, which the Bureau has been studying for "only slightly more than a year," the raw material is gasified completely to provide carbon monoxide and hydrogen which then are combined over a catalyst to produce oil and waxes.

Encouraged by Congress' promised $30,000,000 backing, the Bureau is expected to continue its studies of 150 proposed sites without interruption such as occurred in 1929. At that time, after a three-year study of the extraction of oil from domestic oil shales—which showed that large American shale deposits will yield up to 45 gallons of oil per ton—the study was discontinued because of "a shortage of funds."

The aid of British engineers and technicians, familiar with synthetic-petroleum processes used in their own country, will be sought by the bureau to guide construction of demonstration plants in this country.

Junior Chemical Engineers Elect New Officers

NPN News Bureau

NEW YORK—The Junior Chemical Engineers of New York City announced last week the election of the following officers for the coming year:

Randall D. Sheeline, Picatinny Arsenal, vice-president; Wm. B. Hudson, Foster-Wheeler Corporation, secretary-treasurer; and Donald P. Heath, Socony-Vacuum Oil Co., Inc., assistant secretary-treasurer.

Maurice R. Lyons, M. W. Kellogg Co., Gilbert Fox, Davis Engineering Co., Howard C. E. Johnson, Chemical Industries, and Alfred C. Faatz, Jr., Kellex Corporation, will head the program, membership, publicity and luncheon committees respectively.

They have begun to FIGHT

Let's call him John Jones. Our John Jones has a fighting heart to match another of that name—John *Paul* Jones. But John hasn't a chance at a uniform. The doctors would laugh. The draft board would tell him to run along home. For John is 67.

Yet John Jones *is* fighting in this war. At 67, willing and skillful, he is doing a bang-up job in one of our company's war plants. He is one of many senior Standard Oilers who have earned retirement but are back on duty—*because there's a war on.*

Since they were young, these oldsters have worked toward independence. What's more, they *already had achieved it.* They had an assured income. Each was his own boss. Yet, *voluntarily,* they've gone back into harness—*to help along the war.*

Now, youth gives the most to war. But youth gives from morning of life. These others are giving the precious sunset hours. Such was the very spirit of the John Jones who signaled the enemy, "I have not yet begun to fight!" He didn't mean he hadn't started. He meant that, under fire, he would never quit!

To our own John Joneses special mention is due for their sacrifices to help on our vast war job.

Years ago, when this Company set up its retirement system, it was natural to think of it as something special for its people — which, of course, was true.

But so many of our retired employees have elected to serve instead of enjoying the relaxation and pleasures they had earned that we thought you would like to hear about it. This is the real American spirit that will win the war.

E flag, with 2 stars, awarded to our Richmond Refinery

STANDARD OF CALIFORNIA

Railroad Sells Oil Rights

HOUSTON, Tex. — Gulf & Interstate Railway Co., a subsidiary of Santa Fe, has sold the mineral rights on its right-of-way and townsite lots of the Bolivar peninsula to the Coline Oils Co. for $11,500.

The railroad, until recently, operated from Galveston to Beaumont by way of the Bolivar peninsula, making the trip across the bay from Galveston to Bolivar by ferry. Now, however, the line only operates between Beaumont and High Island. Bolivar is the scene of considerable drilling activity.

Maine Becomes 15th State to Adopt Amendment Forcing Auto Tax Funds to Roads Only

NPN News Bureau

NEW YORK — Maine electors on Sept. 11 ratified a constitutional amendment to guarantee that all automotive tax funds shall be used exclusively for road financing, B. H. Markham, director of the American Petroleum Industries Committee of the American Petroleum Institute, announced last week. The vote in favor of the amendment was approximately four to one.

Maine was the fifteenth state to adopt such an amendment designed to ban the diversion of gasoline and other automotive taxes for non-highway uses. States with similar amendments now include California, Colorado, Idaho, Iowa, Kansas, Michigan, Minnesota, Missouri, Nevada, New Hampshire, North Dakota, Oregon, South Dakota and West Virginia. In five other states—Connecticut, Kentucky, Nebraska, Pennsylvania and Washington — similar constitutional amendments will be submitted to the voters. At the general elections next Nov. 7, the people of two of these states, Nebraska and Washington, will ballot on anti-diversion amendments.

"Gasoline and other automotive taxes were inaugurated by the states to provide funds for highway improvements," Mr. Markham said, in commenting on the Maine result. "Although some states have adhered to the sound practice of using automotive tax funds solely for highways a number of states have raided their highway funds for non-highway purposes. In 1941, the last peace year, 15 states diverted 10 per cent or more of their total automotive tax revenue to non-highway purposes. Several states used one-third or more of their road funds for non-highway purposes.

"Diversion of automotive tax funds is a serious threat to highway progress in the United States. In many states the practice substantially reduces the amount of funds available for highway construction. In 1941 the states as a whole diverted an amount equivalent to 60 per cent of the total state funds spent on main state road systems in that year. In recent peace years many states diverted amounts of gasoline taxes and motor vehicle registration fees that exceeded their federal highway aid grants. Thus, it would appear that in some states the practical value of federal highway aid is largely to replace automotive tax funds that have been diverted to non-highway purposes."

Mr. Markham pointed out that more than 40 state legislatures will convene within the next few months and will consider post-war highway finance.

"If America is to make progresss in highway development after the war," Mr. Markham said, "there must be recognition of the urgent need to eliminate the unsound practice of the diversion of state automotive tax funds to non-highway purposes.

"Highway planning should contemplate fair and reasonable taxation of road users and the adoption of sound financing programs so that available road revenues will not be dispersed or dissipated away from roads by diversion or other questionable practices. Elimination of diversion would automatically provide to the states an additional $200,000,000 annually for road construction during the post-war period at present tax rates. For the most part, those additional millions of dollars would accrue to those states having the greatest needs for increased road facilities."

East Coast Rail Hauls Slump to 521,587 b/d

NPN News Bureau

WASHINGTON—Amount of crude and products imported by tank car into Dist. 1 showed a further substantial drop during the week ended Sept. 9, averaging only 521,587 b/d compared with 564,436 b/d the previous week, or a drop of 42,849 b/d (7.9 per cent) during the seven-day period.

Latest tank car figures thus pointed up reference to tankers made this week in the P.I.W.C. Economics Committee report that while such movements to points north of Hatteras on the East Coast during July were considerably less than 350,000 b/d, "they have been increasing steadily since that time and the immediate outlook appears promising."

(The committee reported that movements of 190,000 b/d from Dist. 3 and 166,000 through imports to north of Hatteras, by tanker, are necessary during the first quarter of 1945 in order for Dist. 1 to meet the military and essential civilian and rationed demands that will exist through March 31, 1945, if neither Germany nor Japan surrenders before then.)

The substantial switchover in the East Coast oil transportation picture in recent weeks from tank cars to other media, including tankers, was indicated by the number of tank cars reported in East Coast service as of Aug. 15. Total number of cars was only 52,287 compared with well over 60,000 a few months ago, PAW said today.

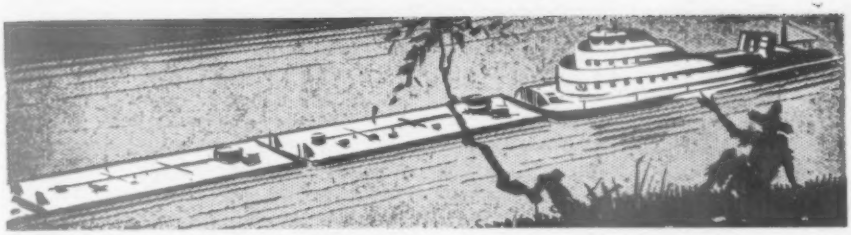
A total of 16,940 tank cars was loaded for East Coast shipment during the week ended Sept. 9 by the following companies:

Aetna	24	Drake	6	Root	97
Allied	76	Elk Refining	39	Royal Petroleum	88
Amsco	121	Freedom Oil	4	Shell	886
Arkansas Fuel	1	Gulf	1216	Sinclair	53
Ashland Refining	256	Hartol	140	Socony-Vacuum	2849
Asiatic Petroleum	110	Hess, Inc.	7	Southland	5
Associated	149	Jenny Mfg. Co.	48	S. O. California	4
Atlantic Refining	1104	Libby	5	S. O. Indiana	386
Aurora	6	Midwest	18	S. O. Kentucky	36
James B. Berry Sons	9	National Refining	35	S. O. New Jersey	3269
Cantelou	10	Ohio Oil	92	S. O. Ohio	124
Canton	9	Pacific	110	Sterling	4
Chalmette	25	Pan American	772	Sun	2369
Cities Service Oil Co.	485	Pana	4	Talco	66
Coastal	14	Petroleum Heat & Power	13	Texas	1146
Continental	241	Phillips	82	Tide Water	44
Cooperative G.L.F.	4	Primrose	32	Tiona	1
Cosden	63	Pure	65	Triangle	13
Crown	2	Richfield	80	United	16
Daugherty	13	Roosevelt Oil	8		

General Motors Ready for Bell

NPN News Bureau

CHICAGO—General Motors expects to start turning out new cars four months after the go sign is given and attain pre-war levels of production in six months, Alfred P. Sloan, Jr., chairman of the board of General Motors Corp., said here last week. Prices may move upward, depending mainly on labor and material price levels, he said.



River Notes—

Traffic-Choked Inland Waterways Emphasized By Huge Shipments of Petroleum Products

By David I. Day

The first half of September found the Mississippi in the vicinity of Minneapolis and St. Paul a very busy stretch of water. There were numerous cargoes of petroleum products. The most interesting to the people in that locality was the one brought up by the powerful 2200-h.p. steamer *"Indiana"* which is a well-known work boat from St. Louis southward. This was her first journey to the upper river.

She came under command of Capt. Nat Haynes with ten loaded barges from the New Orleans district, some for La-Crosse, some for Minneapolis, some for St. Paul. Capts. Thomas W. Posey and W. P. Smith did the star-gazing on the trip with Carl Jackson in charge of the engine room. This sturdy Mississippi Valley Barge Line boat went down later picking up empty barges along the way down to Cairo where report had it she was to pick up the tow of the *"Ernest T. Weir,"* there or at some point between Cairo and Memphis. Then she was to push up the Ohio.

Unloads Crude Cargo

Her journey up the Ohio was not calculated to cause as great interest as the one she made up the Mississippi to the Twin Cities. For preceding her was the *"Louisiana,"* an identical twin boat, pushing a double lockage tow of six barges of gasoline and an empty or two, her first appearance on the Ohio's upper reaches. In command of the *"Louisiana"* was Capt. L. A. Wright. Capt. Carl Rue was pilot. L. E. Dupont was chief engineer.

The *"Indiana"* and the *"Louisiana"* are turbo-electric powered and were built some fourteen years ago at the Ward shipyards at Charleston, West Va., each being 191 feet long, 40.6 feet in beam, and with a depth of eight feet.

The *"Bou Arada"* of the DPC fleet, chartered by Sohio, was approaching St. Louis when observed and is now at work. Above St. Louis at Wood River, Ill., the steamer *"Jos. Chotin"* was leaving for Baton Rouge after unloading a cargo of 18,000 barrels of crude oil. Capt. J. B. Chauvin was master with Capts. Walter Gilmore, Jr., and J. E. Chamberlain as pilots and with Jean Ryan and Norman Seely in charge of the engine room.

At Memphis, there was much complimentary talk regarding the voyage up of the DPC steamer *"Tunis"* which is under charter to Butcher-Arthur, Inc., of Houston. She went up past Memphis to Wood River from New Orleans making the journey in 14 days flat. She had nine barges with 78,000 barrels of crude and was drawing eight feet of water. Both the master, Capt. William M. Ripley and the pilot, Capt. Russel R. Randolph are Memphians. Inquired about the steamer *"Buna"*, a sister boat of the *"Tunis"*. The *"Buna"* has been working for the Butcher-Arthur company.

Learned she was undergoing repairs near New Orleans and that our old favorite, the *"Jason"* of Pittsburgh, the big white beauty of the Union Barge Line was at work instead of the *"Buna"* for the time being. By the time this is in print, she will doubtless be doing her own work and the *"Jason"* will likely be plowing up the Ohio again.

The lower Ohio from Cairo to Evansville was reasonably busy in the oil trade as your correspondent passed up. The *Capt. Alphin,* now a Pure Oil boat was undergoing repairs at or near Paducah. The DPC steamer *"Tulagi"* passed down with a tow of empties. Heard talk of the comparatively new *"Jean Marie"* of the Lea River lines going up in the direction of Pittsburgh with 54,000 barrels of oil, quite a record for the boat. Noted upbound tows of petroleum products in charge of the *"Dorothy H"* of the Hougland Lines, the *"Casablanca"* and others. Heard that my old favorite oil pusher the *"Celeste"* had gone all the way up possibly to Pittsburgh waters with a nice tow. Shortly, I saw her with empties coming down above Louisville.

Talks with Rivermen

At Louisville, talked to some rivermen friends who were wondering when the rebuilt tanker, *"Republic-Pittsburgh"*, would be seen at work. They were bragging about the performance of many boats well-known in that city, particularly the *"Jack Rathbone"* of the Standard of Louisiana, a perennial favorite.

Unquestionably, the 105,000-barrel shipment by the *"Indiana"* to the Twin Cities is the most spectacular oil-moving job of September, it is well not to overlook the constant labors of the many little boats shuttling back and forth with two or three barges—like the "Ace" and *"Producer* II" of the Producers Pipeline Company on the lower Ohio and such boats as the *"Margaret Dawson"* and the *"Miss Sterling"* on the upper river. As one steamboat captain commented recently: "Ashland Oil has great big boats now but you'll notice the little *"Senator Combs"* is still pushing barges." Certainly, the little boats are rendering a notable service in this war as well as the big ones.

Now, that the Allied armies appear to be closing in on Germany, it may be well to look back in our notes to a year ago this week when the *"Jean Marie"* mentioned in this report as going up the Ohio with 54,000 barrels was brand-new, just starting to work. We have no figures on how many barrels she has moved this year past but the figures would be thought-provoking. Same for the *"Bataan"*, just rolling into the water a year ago, first of the DPC boats to be completed at Cargill yards up in Minnesota.

Maybe the Ohio River fishermen's plaint that so much oil and gasoline has seeped into the river the last year that the fish taste like crude oil—well, maybe, there's something to their story. At any rate, millions and millions of gallons have moved up that river and all the rivers. It will continue to move until the day of victory and peace.

Not all the oil and gasoline is moved by what we popularly call the oil boats. This week on the upper river I observed a dozen boats moving a few barges of petroleum products and other barges of other essential materials — the big *"Charles T. Campbell"* among them.

Jersey Standard Merchantman Spends 8 Months in Arctic

NPN News Bureau

WASHINGTON — A New Jersey Standard vessel, the Beacon Hill was one of six United States merchant ships "lost" for eight months in Arctic Russia after the tough Murmansk run, the War Shipping Administration announced this week.

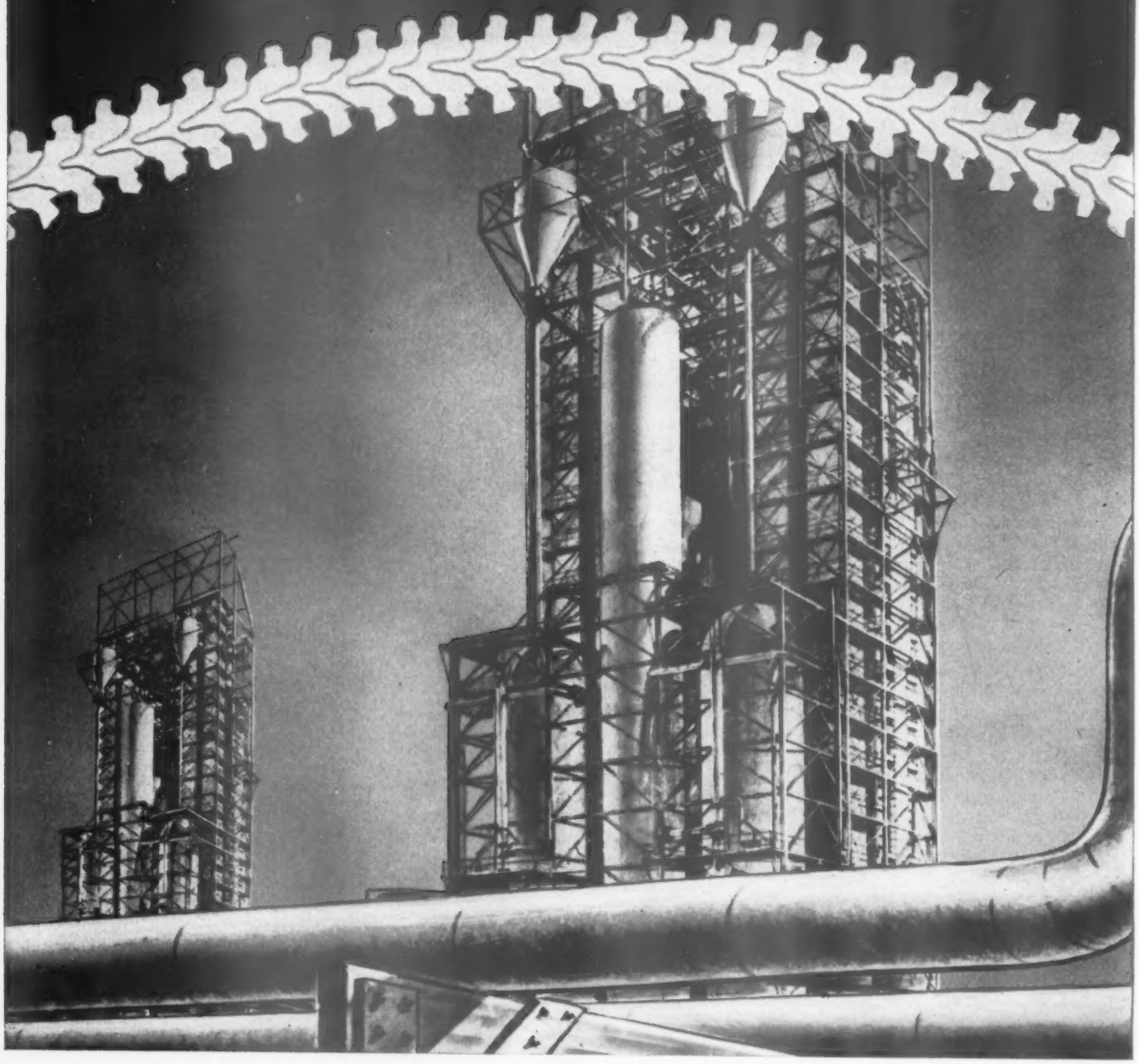
Carrying food and vital war materials, the Beacon Hill and her sister vessels sailed out of New York harbor in January, 1943, joining about 18 merchant ships of other Allied nations in a convoy which failed to return for nearly a year.

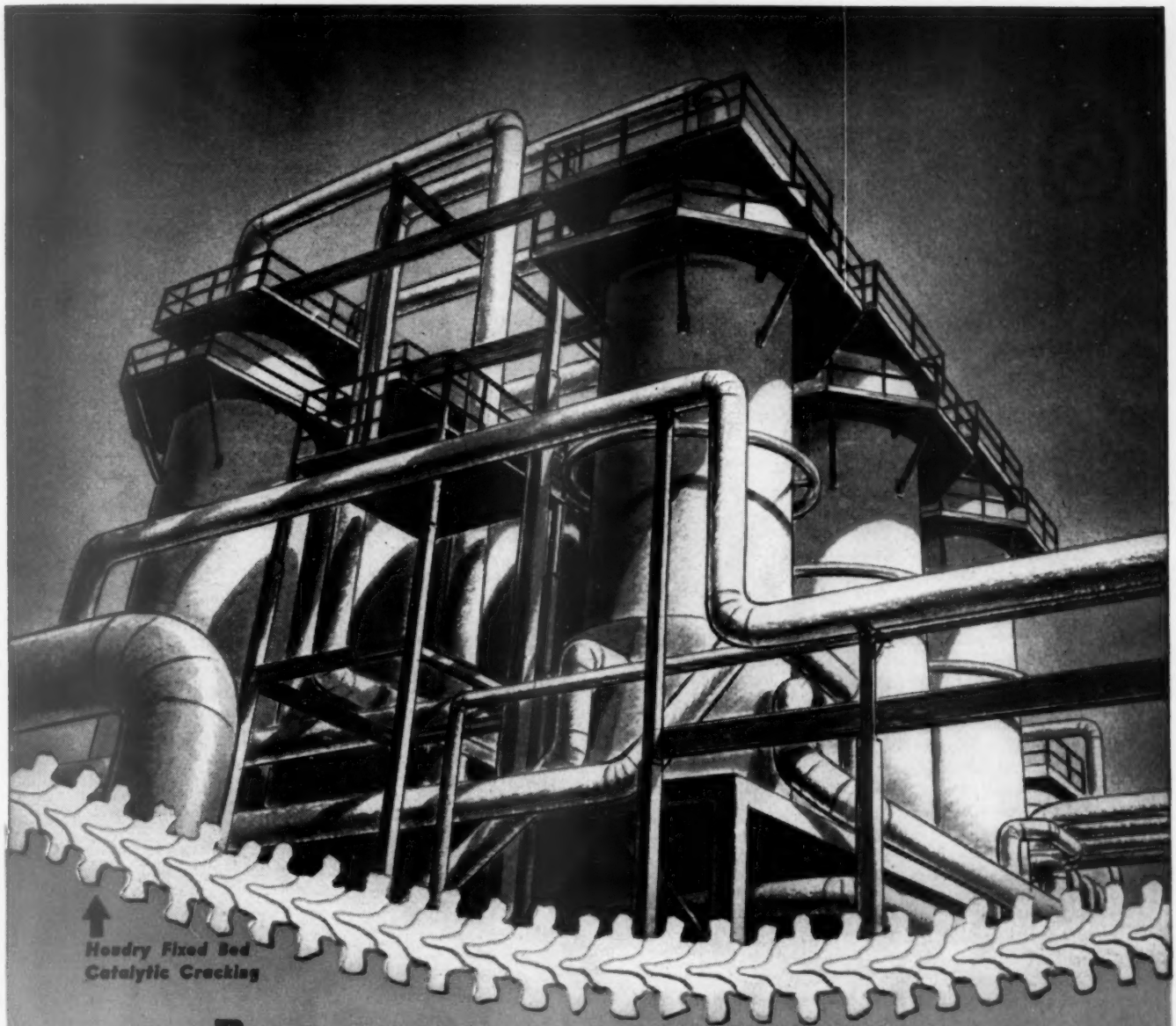
Arriving in North Russia on March 2, 1943 the ships unloaded their cargo but the seamen had to wait until last September before a return convoy was made up.

Besides the New Jersey Standard vessel, the "forgotten fleet" included the "City of Omaha," operated for the War Shipping Administration by Lykes Bros. Steamship Co. Inc., New Orleans, La.; "Thomas Hartley," Merchants and Miners Transportation Co., Baltimore, Md.; "Francis Scott Key," Lykes Bros.; "Bering," Alaska Packers Association, San Francisco, Calif.; and "Israel Putnam," North Atlantic and Gulf Steamship Co., Inc., New York City.

CATALYTIC CRACKING

. . . THE BACKBONE OF THE 100-OCTANE AVIATION GASOLINE PROGRAM





Houdry Fixed Bed Catalytic Cracking

By supplying in constantly accelerating quantities the major components of 100-octane fuel, *Catalytic Cracking* has made possible the great past and present Allied aerial offensives. *Catalytic Cracking* will continue in pace with the increasing crescendo right on to V-Day! And just as surely, *Catalytic Cracking* will help in the post-war and peace economy!

Badger's part in this program covers the entire period from the world's first commercial catalytic cracking units, through the engineering improvements resulting in the current Houdry Fixed Bed Units to the latest applications in Thermofor Catalytic Cracking.

This experience represents a backlog of "know how" not available to any other single organization. It ranges from catalysts and problems specific thereto—to engineering application—to final products.

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Process Engineers and Constructors for the Petroleum, Petro-Chemical and Chemical Industries

Thermofor Catalytic Cracking

• Licensing Agents for the Houdry Catalytic Cracking Processes and the TCC Process.

BADGER-DESIGNED AND BADGER-BUILT UNITS HAVE PRODUCED MORE CATALYTICALLY CRACKED GASOLINE THAN ALL OTHERS COMBINED.

Oil Industry Squares off for Public Land Fight; P.I.W.C. Opens Fire on Reserved Mineral Rights

NPN News Bureau

WASHINGTON — The oil industry, through Petroleum Industry War Council, this week took the first step toward injecting itself into what promises to develop into a full-blown controversy over the land policies of the federal government, now the owner of 24 per cent of the land area of continental U.S.A.

While postponing the taking of a position on the larger issues of public land oil royalty rates, acreage limitations and so on, P.I.W.C. unanimously adopted a resolution demanding that government, in disposing of surplus real estate acquired for war purposes, divest itself of the mineral rights therein as well as the land.

Action was on the recommendation of the P.I.W.C. production committee and came in a week which saw Republican Presidential Nominee Dewey sniping away in the west at federal "land grabs" and the House Public Lands Committee calling for more business-like procedure in government land purchases. As it is now, the House committee said, federal purchasers are disrupting city, county and state governments by reason of the fact that federally-owned land becomes tax exempt, thus eating into local revenues.

Agreeing in a measure with P.I.W.C., the House Committee recommended that "property which it is not necessarily advisable to hold for the best interest of the nation should be returned to private ownership in a prompt and orderly way."

Issues other than mineral rights and the disposal of surplus real estate were not normally considered by P.I.W.C. proper, but were argued at some length at the earlier meeting of the production committee.

Study 'Recommended Policy'

Actually, the committee had before it copies of a "Recommended Policy on Public and Government Lands," drafted at a meeting of operators in Denver and presented by R. S. Shannon, president of Minnelusa Oil Corp., and chairman of the District 4 Production Committee (PAW). According to the P.I.W.C. production committee report, however, while the proposed "policy" was fully discussed "no formal action was taken upon the conclusions as presented, it being the opinion of some that further time was needed for this committee to pass upon and adopt any formal policy on the overall subject of oil royalties and other matters relating to public and government lands."

One outgrowth of discussion was a committee recommendation that P.I.W.C. create a standing committee on public lands, but P.I.W.C. tabled this for the reason that the National Oil Policy Committee already has a group working on the public land problem and is expected to submit a report soon.

Following are pertinent excerpts from the "Recommended Policy on Public and Government Lands" and are quoted here because they at least point up the direction of industry thinking:

GENERAL POLICY: In large measure, the success of the petroleum industry in the United States has been due to the system of land tenure generally prevailing under which the subsoil mineral rights are owned by innumerable individuals, with the consequent spreading of revenue from lease bonuses, rentals, and royalties among many people, usually farmers, and with general dissemination within a low-income group. By setting up the Leasing Act in 1920, the government first departed from the democratic principle of government for governmental purposes

only and set itself up as a proprietor of lands, leasing them for revenue and thus engaging in business not for the public service to be rendered thereby but for profit. This profit motive should be subordinated at all times to the development of the public domain. The Act should be confined to the leasing of the public domain by the government in a manner consistent with its proprietary ownership, with merely a resulting royalty interest, the income from which should be more equitably distributed to the states. The Act and regulations should exclude all control of the working interest by the government as lessor, which the law does not imply as protection to the royalty interest.

Urge 12½% Rate

ROYALTY RATE: All leases of the public domain not within a producing structure should be issued without competitive bidding at a flat rate of 12½% of the market price prevailing in the field where the lands are situated for all oil, gas, and other hydrocarbons produced, saved, and sold or removed from the lands, less actual cost of extracting products from gas. Leases of lands within a producing structure should be by open competitive bidding, but also at a flat 12½% royalty. All leases heretofore issued should be exchangeable at the option of the lessee at the flat 12½% royalty, except (a) leases heretofore issued on competitive bidding; and (b) leases issued as a preference right under the permit system; and as to such leases, a flat 12½% royalty should be applicable to all new discoveries made on leased land or contributed to by the government lessee.

ACREAGE LIMITATIONS: Protection against monopoly should rest in the anti-trust laws and not in the acreage limitations contained in the Oil Land Leasing Act. Competition of the oil companies in the leasing of privately owned lands has demonstrated beyond any doubt that the acreage limitations are unnecessary. Although the acreage limitations should be eliminated in their entirety, the state-wide limitation should in any event be enlarged and the present acreage limitation as to any one structure completely eliminated. Producing leases, after the first five years of production, should be exempt from the acreage limitation.

UNITIZATION: Although the amendments to the Leasing Act in 1930 and 1931 bore every evidence of conferring but discretionary authority on the secretary, the secretary adopted a policy of compulsory unitization, and in 1935 prevailed upon Congress to authorize compulsory unitization of leases of the public domain, and set himself up as the arbiter of all operations on the unit, including operations on private lands as well as on the government lands.

The provisions which vest in the secretary authority to alter or modify the quantity and rate of production under the plan in his discretion and to make the plan subject to such regulations as the secretary, in his discretion, may establish should be eliminated . . .

LEASE FORM AND REGULATIONS: The greatest single obstacle, other than the high royalties, to development of the public domain is the lease form in use by the Interior Department. The Act should provide that leases of lands on the public domain should contain only provisions: (a) the term of five years and so long thereafter as oil or gas is produced from the leased land; (b) for the payment of rental; (c) for the payment of royalty at the option of the United States in cash or in kind; (d) that the lessee shall drill such number of wells as are necessary for the reasonable development of the leased land, including offset wells to wells producing on adjacent lands not owned by the United States and within 330 feet of the leased lands; (e) that the lessee will, in conducting drilling and producing operations, use reasonable precautions to prevent waste; (f) that the lessee may assign the lease in whole or in part to any qualified person, firm or corporation; and (g) that the lessee may at any time relinquish or surrender to the United States the leased lands as a whole or any legal sub-division thereof. The Act should prohibit the Secretary of the Interior from fixing, by regulation, the rate and method of development of the leased land, the value of production for royalty purposes, or to compel unitization of the leased lands with other lands in the same field, pool, or area.

Houdry discoveries helped the aircraft industry to set ahead the time table of aviation progress

Catalytic cracking, first developed and commercially pioneered by Houdry Laboratories, has influenced profoundly the advancement of aviation. Perfected by Houdry before the war, cat cracking provided the only means by which aviation fuel of higher quality might be produced in adequate quantity for any possible war requirements. Thus doubly assured, aeronautical engineers were enabled to develop, with no fear of fuel limitations, their most advanced designs; to bring closer, by many years, a new age of swift World Flight.

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HOUDRY CATALYTIC PROCESSES FOR VICTORY IN WAR AND PROGRESS IN PEACE

Hill Blasts Proposed Oil Pact Before P.I.W.C. As Step Toward U. S. Control of Industry

NPN News Bureau

WASHINGTON — A blistering attack on the Anglo-American oil agreement was unleashed this week by George A. Hill, Jr., outstanding southwestern independent oil man, who charged that ratification of the pact as a treaty could lead to congressional control of the domestic oil business.

Despite Mr. Hill's demands, however, P.I.W.C. refused to take a stand either for or against the agreement, yielding instead to the suggestion of Deputy PAW Davies that it avoid the possibility of hasty, ill-advised action by postponing a vote until the next session of the council.

Motion to table a resolution by Mr. Hill which would have placed P.I.W.C. squarely on record in opposition to the treaty was offered by W. Alton Jones, president of Cities Service.

While the Texan, President of the Houston Oil Co., thus was thwarted in his attempt to obtain a council expression at this time, his vigorous lambasting of the proposed accord pointed up the fact that at least some segments of the industry will be on hand to voice their opposition to ratification at hearings to be held after the November elections by the Senate Foreign Relations Committee.

Following is the text of the statement read to P.I.W.C. by Mr. Hill:

"The President of the United States has submitted to the Senate for ratification a Petroleum Agreement of the United States with Great Britain and Northern Ireland, dated Aug. 8, 1944, submitted Aug. 24, 1944, and made public Aug. 25, 1944 . . .

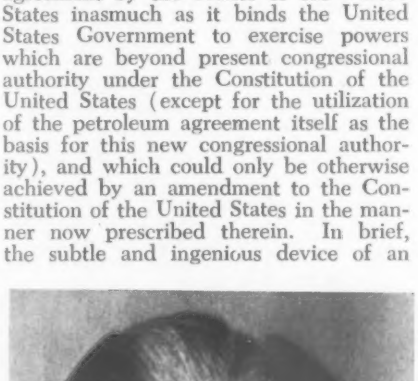
"The secrecy surrounding the negotiations now being removed by the publication of the terms of the proposed Treaty at the instance of Senator Tom Connally (Chairman of the Committee on Foreign Relations of the Senate of the United States), I feel that it is incumbent upon me to report to the Petroleum Industry War Council the objections presented and the questions raised by me as one of the group of "advisors" and the grave consequences which I believe will ensue from the approval and ratification of such Treaty by the Senate, and which should be resisted by all citizens of the United States (irrespective of their engagement in the petroleum industry) who are concerned with the maintenance of the present structure of our constitutional federal system, for the following reasons:

I. A treaty made by the United States with the advice and consent of the Senate becomes the supreme law of the land under Article VI of the Constitution of the United States even though contrary to the constitution or laws of any state or in defiance of powers reserved to the states under the 10th Amendment to the Constitution; and the device of treaty-making can be employed to destroy the limitations of federal power prescribed in the constitution itself without resorting to the procedures fixed in the constitution itself for its amendment.

"II. The device of treaty-making in the case of the Petroleum Agreement now pending before the Senate of the United States is being used as a *legal expedient* for the creation of federal power in the Congress of the United States and/or International Oil Commission over and in excess of the powers delegated to Congress under the constitution and this can be *lawfully* and *successfully* achieved by merely predicating this new body of congressional powers on the treaty itself as the supreme law of the land.

Modifies Constitution

"III. The 'constitutional procedures' referred to in the proposed Treaty itself are completely modified (as they now exist under our Federal Constitution) by the simple ratification of this federal agreement by the Senate of the United States inasmuch as it binds the United States Government to exercise powers which are beyond present congressional authority under the Constitution of the United States (except for the utilization of the petroleum agreement itself as the basis for this new congressional authority), and which could only be otherwise achieved by an amendment to the Constitution of the United States in the manner now prescribed therein. In brief, the subtle and ingenious device of an international treaty, ratified by a two-thirds vote of the Senate, can erect a species of lawful federal control of the oil business, in various aspects and phases not now existent in the Congress of the United States, and this unassailable legal device can be similarly employed in all kinds of international treaties (receiving Senate approval and ratification) affecting any matters that might become the subject matter of international negotiation.



George A. Hill jr.

"IV. The proposed treaty, as a prerogative lawfully accruing to the Congress and the Government of the United States from the legal consequences of its ratification, assumes federal power

"(a) to regulate and allocate production upon the consideration of "available reserves" within various oil producing nations of the world, conjointly with the British and future signatories; and

(b) to make allocations and production quotas upon the basis of a determination of "sound engineering practices" that may or may not be wholly or partially observed, from time to time, in various producing areas of the world; and

(c) to make allocations and production quotas in various producing areas of the world in relation to what may be considered "relevant economic factors"; and

(d) to make allocations and production quotas in various producing areas of the world on what may be assumed to be to the interest of "producing countries"; and

(e) to likewise make allocations and production quotas in various producing areas of the world in relation to "the interests of consuming countries"; and

(f) to make allocations and production quotas with a view to the "full satisfaction of expanding demand" all of which spheres of asserted congressional power are new adventures in asserted federal authority that must derive from a duly ratified Treaty enjoying the dignity of the supreme law of the land.

British Make Reservations

"V. The device of the treaty provision making petroleum supplies available in accordance with the principles of the Atlantic Chapter is of vast significance in that there is thereby created an affirmation of the principles of the Atlantic Charter and the indirect attachment of the consequences of treaty ratification to such principles (concerning which the United States has made no reservations) notwithstanding the fact that the Prime Minister of Great Britain has made for his government the most significant of reservations in favor of that form of economic discrimination known as 'imperial preference' for and within the British Empire, and with the expressed purpose of retaining to the House of Parliament and to the Dominions the fullest possible rights and liberties over the question of imperial preferences."

"VI. The proposed treaty, as a prerogative lawfully accruing to the Congress and the Government of the United States from the legal consequences of its ratification, assumes federal power

(a) to fix what is considered to be a fair price for petroleum supplies to the nationals of all peaceable countries and on a non-discriminatory basis which not only embraces the assumed power of price fixing but also

(b) the power to determine from time to time what country is "peaceable" and what countries are "not peaceable" and what are the shifting criteria in making such determinations in conjunction with other parties signatory to such treaty, which is a far more delicate and dangerous adventure in diplomacy than our variable policy with respect to the recognition or non-recognition of the Latin American Governments in the Western Hemisphere, and

(c) the new assumption, as a function of government, of the determination of what is, or is not, in all aspects of private trade and commerce in oil supplies among the nationals of "all peaceable countries" in relation to the matter of discrimination", over and beyond fairness and equity in the matter of pricing.

(d) the Government of the United

States likewise undertakes the exercise of federal power to so control the development of petroleum resources and the benefits received therefrom by the producing countries as to "encourage the sound economic advancement of those countries" even though, possibly, the current American concept of sound economy might be regarded in one or more of the producing countries involved as a *deterrent* instead of an *advancement*.

Hits at Ambiguities

"VII. In Sections 4, 5 and 6 of Article I are set forth the only matters that might be reasonably embraced in binding obligations between the United States and Great Britain, and the undertakings of the two countries therein set forth with respect to the principle of equal commercial opportunity, the respect for and recognition of all existing valid concession contracts, and the obligation of non-interference, should be clearly set out in a treaty possessing no other ambiguities and phantasies such as herein above outlined.

"VIII. The design for an international oil compact recommended by the Foreign Operations Committee of the Petroleum Administration for War, in a large measure, meets the recommendation and the definition set forth in the report of the National Oil Policy Committee of the Petroleum Industry War Council, and approved by the Petroleum Industry War Council wherein there was advocated 'an international instrument of co-operation and collaboration without power of enforcement and in which there is joint government-industry representation and deemed essential to further world oil developments on a basis of mutual respect'.

"IX. Article III provides for studies and recommendations on a world-wide basis of all sorts of problems relating to production, processing, transportation and distribution of petroleum, and enjoins upon the governments signatory thereto the duties 'in accordance with their respective constitutional procedures to give effect to such approved recommendations', which involves an assumption of federal power to do any and all of the things that might be embraced within the compass of such recommendations. This involves the most violent supererogation of federal power at the expense of our existing constitutional system, (Section 6 of the Constitution) that has ever been attempted through the legal back door of the Constitution in our diplomatic history, in a kindly, innocent and benevolent guise.

Quotes Senate Committee

"X. The proposed treaty is the design for the progressive germination of cartels under government blessing. A reconsideration of this treaty may have provoked the letter of the President, dated September 8th, to secretary of State Hull calling for a curb on cartels in which letter it was stated that a cartel is defined by economists as a system of controlling prices, production . . . and of allocating markets by agreements. The implications with respect to the cartelization of the oil industry cannot be escaped.

"The Foreign Relations Committee of the United States Senate has been advised by competent counsel concerning this treaty and the legal implications thereof and I think the Petroleum Industry War Council should be advised of certain significant comments contained therein:

" 'It is the view of the writer that this agreement must be submitted to the Senate as a treaty in order for it to become binding upon the United States, and in order for the necessary implementing legislation to have constitutional validity.

" 'By paragraph 1 of Article IV of the oil agreement the two Governments agree to adhere to the principles set forth in Article I, paragraphs 1 to 6 inclusive. An inspection of these six paragraphs shows that many broad obligations are assumed for future performance by the parties. Many of these obligations would require legislation for their fulfillment. Inasmuch as this legislation would to a large extent be in fields beyond the powers delegated to Congress under the Constitution, it would be necessary for the legislation to be bottomed on a treaty in order to have validity. Only a treaty can serve as the basis for legislation which would otherwise be beyond congressional competence.

" 'Examining briefly the six paragraphs seriatim, we find that under the first paragraph legislation would undoubtedly be necessary from time to time to fix the prices of oil and oil derivatives or to compel the production or sale of oil, whether produced in the United States or in concessions located abroad and owned by nationals of the United States.

" 'The second paragraph might on occasion call for legislation requiring companies with foreign concessions to pay greater royalties to the foreign governments than required by the terms of the concessions.

" 'The third paragraph will require the setting up of some sort of machinery to determine whether a nation is 'peaceable' in order to be entitled to purchase oil.

" 'The fourth paragraph would require the repeal of that portion of the General Leasing Act (41 Stat. 437) which denies the benefits of the act to aliens of countries whose legislation denies similar privileges to nationals of the United States. Thus, the United States would be under an obligation to grant to any alien applicant the same lease and prospecting permit as would be granted to a citizen of the United States.

" 'By the fifth paragraph the United States agrees that its nationals will not interfere with any contracts and lawfully acquired rights of the other party or its citizens. Thus, in the event of such interference by a national of the United States, the Congress would be required to appropriate the necessary funds to satisfy the judgment of the tribunal which assessed the damages to compensate for the interference.

Executive Action Inadequate

" 'Similarly, under the sixth paragraph legislation would be necessary to prevent any national of the United States from hampering by restrictions the exploration for and development of petroleum resources, the construction and operation of refineries and other facilities, and the distribution of oil. In the event of any unlawful hampering by one of its nationals, the United States could be required to respond in damages to the United Kingdom.

" 'It is evident that much of the foregoing legislation could find no support in the powers delegated to Congress by the Constitution. This does not mean, however, that the Government is unable to carry out the obligations envisaged in the proposed oil compact, but merely indicates that the compact must be cast in the form of a treaty in order that the legislation may have a basis recognized by the courts as valid.

" 'An executive agreement embodying the provisions of the oil compact would be insufficient to achieve the desired result, (1) because the executive agreement in question cannot be supported under the diplomatic or military powers of the President, and (b) because an executive agreement is ineffectual to confer upon Congress legislative powers that it does not otherwise possess.

" 'In conclusion I feel it my duty to urge upon the members of the Petroleum Industry War Council that they record their opposition to the proposed Treaty in a forthright declaration upon the subject."

Zook Demands Key Places For Oil Men Under Pact

NPN News Bureau

TULSA—Upon the membership which will administer the British-American Oil Pact will largely depend its success or failure, Ralph T. Zook, president of the Independent Petroleum Assn. of America, declared in an editorial appearing in the September issue of the *Independent Monthly*, I.P.A.A. official publication.

"The commission must be constituted of men with broad experience in the oil industry, with representation from both large and small units in the industry," Mr. Zook says. "If the commission starts out with the confidence of the public, has its dealings in the open, makes sound recommendations and those recommendations are carried out by the two governments at interest, much good can come from it.

"It can, under these cirumstances, be expected to have the support of the oil industry. With that support it can be successful."

East Texas Oil Association Assails Oil Agreement

Special to NPN

TYLER—The East Texas Oil Association, in a statement over the signature of its executive vice-president, H. P. Nichols, has assailed the British-American Oil pact as another cartel.

"The pact with Britain is ambiguous, vague, and subject to several interpretations," the Association charged. "In substance, it creates an international oil pool. It controls production, price and competition. In the end, the consumer of the United States will pay the bill . . ."

P.I.W.C. Economists See U. S. Oil Supply Assured To Spring Even in War—but Nazis Might Quit

NPN News Bureau

WASHINGTON — Taking note of the possible early surrender of Germany, P. I. W. C.'s economics committee this week presented supply, demand and inventory figures through March 31, 1945, which are "not intended to be a forecast of what the committee considers most likely to happen."

Figures presented, committee said, indicate, rather, "what would occur under certain assumptions relative to the duration of the war. "The figures," it was said, "do, however, show that even though global war should continue throughout this winter, all essential civilian demand, and necessary rationed requirements, plus all of the needs of the United Nations, can be satisfied with the possible exception of relatively small amounts of lubricants, kerosine and distillates, and that these shortages would not develop until late in the first quarter of next year. Stocks of crude and practically all products must be reduced to near-minimum levels to meet these demands."

After thus pointing out that figures are academic in many respects, the committee emphasized that there will be "major shifts" in demand if the war in Europe should end suddenly, which will result in a situation "entirely different" that what can be expected under global war conditions.

Members of the economics committee are Robert E. Wilson, chairman; J. Frank Drake, O. D. Donnell, W. H. Ferguson, Eugene Holman, William F. Humphrey, A. Jacobsen, A. C. Mattei, J. Howard Pew, Charles F. Roeser and Fred Van Covern. Economic advisors are R. S. Meriam, J. E. Pogue and Alexander Sachs.

Complete text of the report follows:

This report of the Committee on Petroleum Economics is based upon the recently completed report of its Sub-Committee covering the anticipated supply and demand and inventory situation from September 1st, 1944 through March 31st, 1945. The Sub-Committee report was not extended over the usual 12 or 15 month period because of recent developments in connection with the war in Europe. It was, however, based upon the assumption that global war would continue throughout next winter because that committee wanted to determine whether both military and heating oil demands could be satisfied during the coming heating season on the unfavorable but conservative assumption of a continuation of the war both in Europe and in the Pacific, and also because estimated military requirements from District V over the next six months have been increased since the last forecast.

The general supply and demand and inventory positions outlined herein are not intended to be a forecast of what the committee considers most likely to happen. Rather, they indicate what would occur under certain assumptions relative to the duration of the war. The figures do, however, show that even though global war should continue throughout this winter, all of the essential civilian demand and necessary rationed requirements plus all of the needs of the United Nations, can be satisfied with the possible exception of relatively small amounts in lubricants, kerosine and distillates, but that these underages do not develop until late in the first quarter of next year. Stocks of crude and practically all products must be reduced to near-minimum levels to meet these demands.

If the war in Europe should end suddenly, there will, of course, be major shifts in demand which will result in a situation entirely different from that set forth herein. In that case, and as soon as the necessary shifts in operations can be evaluated by the military authorities, the Sub-Committee will be asked to meet promptly in order to prepare, for the Council, another report which will consider these changes and their effect upon operations within the United States.

Recognizing the growing importance of District V in the overall petroleum situation, a special section is included in this report covering the anticipated supply and demand and general conditions in that area.

I. United States Petroleum Demand

The demand estimated by the committee during the fourth quarter of this year averaged 5,437,000 b/d, while in the first quarter of 1945 the demand that had to be considered totaled 5,565,000 b/d. These unprecedently high figures represent levels 690,000 b/d and 665,000 b/d greater respectively than the demands in the comparable periods of winter of 1943-1944 when the then producing and refining capacities of the country were considered to be close to their limits. The principal increases, as compared with the last long-term report of the Committee, are in Districts III and V reflecting, mainly, military requirements. The military demands which were included were again based upon a world-wide consideration of all of the United Nations petroleum needs and again represent the net amount remaining after the deduction of the maximum supplies foreseeable at this time from all United Nations' sources outside of the United States. (*See Table I.*)

II. United States Petroleum Supply

It is now estimated that U. S. production during 1944 will average 4,587,000 b/d of crude oil and 288,000 b/d of natural gasoline, condensate and benzol, a total new domestic supply of 4,877,000 b/d. Anticipated production for this month (September, 1944) on a comparable basis totals 5,044,000 b/d and is expected to average 5,028,000 b/d in the first quarter of next year as will be seen from Table II, below, which includes actual figures for earlier periods and adds imports to show the total United States new supply. These record high levels unfortunately involve considerable production in excess of the maximum efficient rates in certain fields.

III. Stocks of Crude Oil and Refined Products

Satisfying all of the demands which have been assigned to the Pacific Coast and using the necessary transportation thereto, and utilizing all remaining transportation to the fullest extent possible in other districts, indicates that even though stocks of all major products will reach or approach minimum working levels in all districts as of March 31, 1945, as a result of anticipated reduction in the seven months period ending that date of 51,000,000 barrels, certain small balances in United Nations' requirements

TABLE I. Total Petroleum Demand Including Essential Domestic and Ration Requirements and United Nations' Needs

(Thousands of Barrels Daily

	1943	1944					1945
	4th Q	1st Q	2nd Q	3rd Q	4th Q	Year	1st Q
Gasoline	1784	1802	2046	2123	2106	2019	2057
Kerosine	219	256	178	182	250	217	299
Distillate	645	781	628	621	732	690	837
Residual	1369	1384	1303	1280	1446	1353	1526
Lubricants	114	107	115	121	134	119	129
Asphalt	100	66	107	135	107	104	73
Other, Crude Oil and Loss	517	504	551	621	662	585	644
Total Demand	4748	4900	4928	5083	5437	5087	5565

TABLE II. U. S. Petroleum Supply

(Thousands of Barrels Daily)

	1943	1944					1945
	4th Q	1st Q	2nd Q	3rd Q	4th Q	Year	1st Q
CRUDE OIL PRODUCTION*							
DIST. I	66	61	63	65	66	64	64
II	958	921	914	915	912	916	909
III	2195	2488	2595	2720	2727	2633	2702
IV	119	121	118	130	130	125	130
V	779	821	838	858	877	849	892
U. S.	4117	4412	4528	4688	4712	4587	4697
NATURAL GASOLINE—CONDENSATE PRODUCTION*							
U. S.	248	260	273	300	320	288	331
REPORTED IMPORTS							
U. S.	48	109	135	140	146	133	166
Total U. S.	4413	4781	4936	5128	5178	5008	5194

* On Bureau of Mines basis which reports 15,000 b/d of condensate in District II as crude oil production.

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still remain to be covered. These balances are shown below in Table III.

TABLE III.

United Nations' Balances Yet to Be Supplied (Barrels Daily)

	Sept. 1944	4th Quarter 1944	1st Quarter 1945
Lubricants	—	7,000	4,000
Kerosine	—	—	22,000
Distillates	—	—	8,000

The above balances are very small in relation to the demand shown; so small that they may well be considered as within the element of error always inherent in estimates of demand of the magnitude considered in Table I. Furthermore, they represent amounts to be supplied by all of the United Nations' oil producing and refining countries and not only the United States, or P.A.W. District I, against which they have been applied in the committee's detailed calculations.

The stock reduction referred to above is spread pretty well throughout the whole range of products and is distributed between districts in such a manner that it is believed the reduction can be realized, if it is necessary in order to meet military and essential civilian requirements. However, this results in gasoline stocks running substantially lower than would be desirable for economy of operation and ability to meet emergencies. Set out below in Table IV are comparisons by quarters during 1944 and for the first quarter of 1945 of crude oil and principal product inventories indicating the abnormally heavy withdrawal which would be necessary during the coming winter if the demands indicated earlier were to be supplied and if the United Nations' balances yet to be supplied are to be no greater than those indicated in Table III.

TABLE IV.

Crude Oil and Product Stocks (Millions of Barrels End of Period)

	1944				1945
	1st Q	2nd Q	3rd Q	4th Q	1st Q
Crude Oil	243.3	235.7	227.8	224.9	225.9
Gasoline	87.1	82.0	75.8	72.0	72.5
Kerosine	6.6	9.8	13.9	9.9	5.5
Distillates	29.9	35 2	42.4	35.7	20.2
Residuals	45.4	46.6	53.8	47.9	36.1
All Oils	472.7	473.0	473.1	450.4	423.0

IV. Transportation in and to the United States

Tank car receipts in District I during the first 26 days of August averaged 634,000 b/d. They are expected to average 635,000 b/d rate in September; 604 000 b/d in the last quarter of this year and 575,000 b/d in the first quarter of 1945. This declining rate is due to:

(a) The anticipated large increase in tank car movement to District V which represents an economical use of transportation under today's conditions.

(b) Seasonal diversion of tank cars for hauling vegetable oils and alcohol.

(c) Unavoidable scrappage of worn-out equipment and seasonal factors.

The 24" War Emergency Pipeline is anticipated as moving an average of 320,000 b/d of crude oil throughout the period; 10,000 b/d of which will be diverted to industry in District II for delivery to District I.

The 20" War Emergency Pipeline is calculated to move gasoline exclusively throughout the period and to handle 220,000 b/d. This rate on gasoline compares with recent movements through the line of 180,000 b/d when the line was operating on gasoline and light fuels.

The 16" crude oil line from West Texas to Drumright, Oklahoma, is estimated to deliver 69,000 b/d in September and, reflecting the influence of winter weather, to average 65,000 b/d thereafter.

Intra-coastal barges and cross-gulf tankers (including those making deliveries to the East Coast south of Hatteras) are scheduled to continue at about their present movement, which is nearly 200,000 b/d, to District I.

Tanker requirements in District I (north of Hatteras) during September and the fourth quarter have been estimated at 145,000 b/d from District III and 146,000 b/d supplied by imports.

In the first quarter of 1945, estimated tanker requirements north of Hatteras are 190,000 b/d from District III and 166,000 b/d through imports. These tanker requirements are necessary in order for District I to meet the military and essential civilian and rationed demand, and must be met, if the demands herein are to be supplied without any greater stress on inventories as of March 31, 1945, than the stock figure already referred to. While movements to North of Hatteras during July were considerably less than the rates indicated above, they have been increasing steadily since that time and the immediate outlook appears promising.

V. California Situation

Because of the developing importance of a thorough understanding of the California supply and demand and inventory situation, the committee is including herewith a somewhat detailed statistical analysis of the situation in District V. Again, these comments on District V assume that both the European and Pacific phases of the war will continue throughout the first quarter of 1945.

While the statistical situation in general appears to be satisfactory it must be kept in mind that the Pacific theater is already consuming much more than District 5 can supply. California is, however, already producing considerably above its maximum efficient rate with resultant loss in ultimate recovery. From the viewpoint of saving time and transportation it is highly important to maximize crude production and runs to stills in the District. Specifically, a shortage of distillate fuel oil exists and will become more critical as time goes by.

We quote from the Sub-Committee's report:

"Crude production estimates are more optimistic than presented heretofore, varying from 865,000 b/d during September to 892,000 b/d during the first quarter of 1945. These figures include 8,000 b/d of new Elk Hills production in September and 28,000 b/d during the first quarter of 1945.

"Receipts of crude and products from other districts, all by tank car, vary from 122,000 b/d in September to 131,000 b/d in the first quarter of 1945.

"Total available supply, representing the district supply of crude oil, natural gasoline, etc., and receipts from other districts, varies from 1,039,000 b/d in September to 1,077,000 b/d in the first quarter of 1945. Since demand, including shipments to other districts, for crude and products, varies from 1,046,000 b/d in September to 1,187,000 b/d during the first quarter of 1945, 7,000 b/d of demand must come from inventories during September and 110,000 b/d during the first quarter of 1945. With the possible exception of distillates, including cutter stock for Special Navy Fuel Oil, it is believed that the district can handle these demands. Inventories decrease from 87,300,000 barrels September 1, 1944 to 69,600,000 barrels March 31, 1945, a reduction of 17,700,000 barrels during the seven month period.

"As of March 31, 1945, the anticipated total inventory figure of 69,600 000 barrels is 10,100,000 barrels above the minimum working stock level. Of this excess, 4,000,000 barrels represents crude oil which should be run to stills as early as possible, and 4,100,000 barrels is shown as gasoline. This gasoline is mainly naphtha distillate and 91 octane aviation gasoline stock, the latter resulting from reduced future demand by the military in the face of sustained maximum production under present directives. Kerosine and distillate combined will be 2,500,000 barrels *below* minimum operating levels March 31st, indicating the critical outlook for these products. The balance of the excess is distributed among other products, of which the largest item is 1,600,000 barrels of heavy fuel oil.

"The principal reason for the anticipated distillate shortage is the requirement for this grade of charging stock by the new catalytic cracking facilities, a part of the 100 octane aviation gasoline expansion program. It is possible that this distillate shortage may be partially relieved by alterations in the refining program by adjusting the quality of other products. Considerable progress has already been made in the district in increasing the supply of distillates by supplying higher viscosity fuel oils to consumers. This applies to all grades of fuel oil except Special Navy Fuel Oil. Recommendations have already been made to raise the viscosity of Special Navy Fuel Oil, but thus far the Navy has not changed its viscosity specifications.

"PAW has eliminated all demands for 50 cetane diesel oil from District V refiners to make available an equivalent volume of suitable distillate for blending additional quantities of Special Navy Fuel Oil. This change is reflected in the tabulations in the District V section of the appendix of the Sub-Committee's report."

VI. General

(1) The Committee wishes to stress the fact that in relation to the probable new supply and permissible stock withdrawals, the anticipated demands considered in this report, if realized, would result in a condition of inventories as of March 31, 1945 in which stocks in practically all districts will be down to minimum working levels and include no adequate buildup in gasoline stocks in anticipation of spring seasonal increases in demand.

(2) It is not unlikely that the end of the European phase of the war will occur during the term of this report, and before the problems which would result from the inventory situation described in the above paragraph, actually come about. In that event, the small balances shown as yet to be supplied

(*Continued on pg.* 56)

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(*Continued from p. 25*)

situation; another important factor was the higher rates of permissible exports in 1937. In Malaya, the estates had to increase wages and labor forces to meet their quota and increased production and prosperity there was accompanied by more liberal use of funds in various ways chargeable to costs under the accounting formula, while the policy on Dutch estates was more conservative and wages continued low.

This chart is of interest as showing the various forms of curve which result from plotting cumulative percentages of production for different groups of estates or the same group for different years. It takes little imagination to picture the probable curve for Dutch natives, for example, or for the lower cost estates of Indo-China.

The combined chart based on composite three-year averages of percentages for both Malaya and the Netherlands Indies, probably comes closer to picturing the composite trend for all producers of plantation rubber and is a further stimulant to the imagination.

Additional revealing and interesting information subsequent to 1937 is provided in a report covering costs of Netherlands Indian estates during the fourth quarter of 1938. This report shows costs before allowances for depreciation, amortization and export tax as well as all-in costs.

During this quarter the permissible rate of exports was only 45%, and yet the average operating costs on these estates were reported at only 4.25 pence per lb., depreciation averaged .53 pence and amortization 1.13 pence (these would be much lower at a higher rate of permissible exports), while the specific export duty was .81 pence per lb.

The table in which these statistics were detailed is reproduced below; the groups of companies are arranged in order according to costs of production before depreciation.

This table shows how export taxes increase all-in costs. Export taxes from any individual country therefore in normal conditions reduce the competitive strength of its producers in foreign countries.

TABLE 16—Netherlands Indian Estates, All-In Costs, 4th Quarter, 1938

(Pence per pound)

Production (percent of total)	Before depreciation	Wear and tear	Amortization	Export duty	All in
1.28	1.91	0.44	0.94	0.81	4.10
0.73	2.58	.37	.79	.81	4.55
2.76	3.06	.57	1.21	.81	5.65
17.33	3.17	.44	.95	.81	5.37
5.02	3.42	.44	.95	.81	5.62
8.87	3.86	.61	1.30	.81	6.58
10.13	3.84	.37	.79	.81	5.81
13.48	4.23	.49	1.05	.81	6.58
12.24	4.68	.67	1.44	.81	7.60
6.40	4.84	.59	1.26	.81	7.50
9.75	4.95	.46	.98	.81	7.20
1.18	5.53	.76	1.62	.81	8.72
5.39	5.57	.57	1.22	.81	8.18
0.85	6.16	.87	1.85	.81	9.69
0.63	6.24	.72	1.54	.81	9.31
0.96	6.61	.82	1.76	.81	10.00
0.76	6.70	.69	1.46	.81	9.66
0.95	6.94	.67	1.43	.81	9.85
0.21	7.35	.81	1.74	.81	10.71
0.40	7.79	.99	2.11	.81	11.70
0.50	7.62	.61	1.30	.81	10.34
0.18	8.18	.88	1.87	.81	11.74
100.00	4.25	.53	1.13	.81	6.72

The 4.25 pence (8.65 U. S. cents at 1938 exchange) per lb. average cost of production before depreciation and amortization, plus .81 pence (1.65 U. S. cents) export taxes compares with 5.42 pence reported for Malayan estates before amortization and depreciation during the first half of 1939 when the rate of permissible exports was 50%. The export tax on estate rubber from the Netherlands Indies was apparently set at a figure that left the average producer there with a slight price advantage over his average Malayan estate competitor. The influence of Malayan export taxes, and quit rents, was not revealed in the cost statistics published for Malayan estates.

TABLE 15—All-In Costs for Malayan and Dutch Estates

Pence per pound	Percentages of production — Malaya			Netherlands Indies		
	1935	1936	1937	1935	1936	1937
Up to 4.75	...	...	...	0.2	13.5	22.8
4.76-5.25	12.1	1.4	15.9	2.6	11.3	39.6
5.26-5.75	19.5	25.5	11.2	10.3	8.1	15.4
5.76-6.25	39.8	47.8	34.1	17.0	15.8	12.8
6.26-6.75	16.8	17.5	23.2	29.1	18.7	4.7
6.76-7.25	8.0	3.6	4.0	21.6	2.6	2.7
7.26-7.75	1.4	.8	5.9	10.1	12.0	.9
7.76-8.25	1.4	1.9	3.8	5.2	9.5	.3
8.26-9.00	1.0	..	1.9	2.2	5.1	.5
9.01 and over	...	1.5	...	1.7	3.4	.3
Total	100.0	100.0	100.0	100.0	100.0	100.0

Depreciation and amortization at 1.66 pence per lb. for the Dutch estates with 45% permissible exports (and they were restricted more severely than the estates in Malaya as explained elsewhere) compares with 1.91 pence per lb. for the same items, during the first half of 1939 on Malayan estates with the official export rate at 50%. The Dutch estates therefore had a considerable advantage on these items, taking the computed allowances at face value.

Malayan Export Taxes

The chief rubber-producing section of British Malaya is the Federated Malay States, and annual reports of the government there show both the exports of rubber and the duty paid thereon for the 1934-1938 period. The tax June 1, 1934 was a cess of 1.0c Straits per lb.; this continued to July 1, 1935 when it was changed to 0.7c Straits per lb. This was reduced to a nominal figure of 0.05c Straits per lb. October 1, 1936, when a sliding scale of ad valorem export duties, increasing with the price of rubber from 1%, when the price was under 20c Sts., to 3½%, when the price was 35c Sts. or over, was made effective. The following table shows the taxes collected, reflecting the influence of ad valorem taxes in increasing prices more when they are high than when they are low, and may be considered reasonably indicative of the effect of export taxes as a cost item on British Malayan rubber.

TABLE 17—Federated Malay States Rubber Export Taxes

	Rubber exports long tons	Export tax Sts. dollars	Cents per pound Sts.	Exchange rate	U. S.
1934	256,516	2,160,157	0.376	0.5901	0.222
1935	194,478	2,247,497	.513	.5717	.293
1936	182,873	2,817,180	.688	.5825	.399
1937	247,386	4,763,184	.860	.5797	.498
1938	171,248	1,553,483	.405	.5692	.230
1935-'37	624,737	9,827,861	.710	.5780	.410

Since the export tax on rubber from the F. M. S. was so much lower than on estate rubber from the Netherlands Indies in 1938, and the overall costs of Malayan estates were higher than for Dutch estates, the costs exclusive of taxes for Malayan estates were then much higher than for Dutch estates.

On April 2, 1940, there was enacted a special war export duty of 2½ per cent ad valorem on the export of rubber produced in the Federated Malay States on land owned or lawfully occupied by persons who are not liable under the laws of the United Kingdom to pay income tax upon the profits accruing in respect of the production and sales of such rubber. This tax was increased to 5 percent on February 1, 1941, and continued at this rate until invasion by the Japanese forced the discontinuance of exports early in 1942. This had the effect of further increasing the costs of local companies other than sterling estates.

Trend Toward High-Yield Plantations

The application of scientific agriculture to rubber plantations attained real headway during the 1920's. From discovery of high-yielding trees to development of clones and plantations took years to accomplish, and constant new advances up to the outbreak of World War II led to fears on the part of some estate interests that obsolescence of plantations would be much more rapid in future than in the past.

The percentage of large estates under high yield trees was steadily growing up to the start of the war, as use of selected seeds and budded stock became fairly general. New planting in the countries allied in International Rubber Regulation was interdicted from 1934 through 1938, but replanting was permitted and specific authority both to plant and to replant was granted for 1939 and 1940, after which again only replanting was permissible.

It may be said that the plantation rubber industry after 1933 was as different from its counterpart before 1922, as the 1914 plantation industry was different from the wild rubber industry which it had then vanquished. Conversion from old style to improved estates continued through 1941, although more gradually than the replacement of the wild rubber industry by plantations in the earlier period.

The following statistics, circulated by the International Rubber Regulation Committee in May, 1940, represent estimates of the IRRC concerning the acreage under rubber to the end of 1941 on the basis of expected plantings. Compared with earlier years, it may be seen that budded rubber was but a small part of the estate acreage in 1928, that budding was practiced on an increased scale thereafter, accounting for 19.1 percent of the estate acreage in 1938. At the end of 1941, it was expected to amount to 27.7 percent of the total estate acreage, 14.5 percent of the total estate and native acreage combined. Trees raised from selected seeds added further to the growing total of high-yield acreage. (*See table 18 below.*)

These statistics indicate that estates accounted for 51% of the total planted rubber in 1928, 51.6% in 1932, 52.6% in 1938, and were expected to be stabilized at 52.4% after 1940. They indicate that estates were scheduled to replant gradually with high-yield trees, although their total acreage was fixed for the time being.

At the last meeting of the IRRC before Pearl Harbor, the amount of new planting (exclusive of Indo-China) in 1939 was reported at 260,983 acres and in 1940 146,244 acres, for a total increase of 407,227 acres during the two years, comparing with 431,000 acres expected increase in the table including Indo-China.

At the same December 2, 1941 meeting,

TABLE 18—IRRC Estimates (May, 1940) of Acreage in Far East Under Rubber on Basis of Expected Planting

(1,000 acres)

	Estates — Seedlings	Budded Rubber	Sub-total	Natives — Neth. Indies	Other Countries	Sub-total	Total Far East
1928	3,379	189	3,568	1,446	1,987	3,433	7,001
1932	3,471	590	4,061	1,674	2,140	3,814	7,875
1938	3,544	838	4,382	1,721	2,233	3,954	8,336
1939	3,464	1,018	4,482	1,796	2,333	4,129	8,611
1940	3,394	1,206	4,600	1,807	2,360	4,167	8,767
1941	3,324	1,276	4,600	1,807	2,360	4,167	8,767

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the acreage replanted during the regulation period was reported as follows:

TABLE 19—Acreage Replanted Under Regulation

1934	2,819
1935	17,512
1936	60,468
1937	90,065
1938	68,621
*1939	139,444
1940	164,428

*Indo-China not included in 1939.

Since yields per acre as high as 2,000 pounds per year are considered feasible with high-yield trees, compared with an average under 500 lbs. for all rubber in bearing, it is apparent that but for the war, operating costs on estates would gradually have been reduced materially by their conversion through replanting.

International Exchange Rates

Fluctuations in exchange rates of the currencies of rubber-producing and rubber-consuming nations have had considerable influence on market quotations for rubber in the past. Devaluation of the currency in a rubber-importing country may raise the quotations for rubber in its currency overnight.

Devaluation in an exporting country is not immediately reflected in higher costs in terms of its local currency, but over a period of several months or years should logically have this result as costs of living rise. The immediate competitive effect is the same as a reduction in cost, in terms not of local currency but of all stable foreign currencies.

How much devaluation (or variation in exchange rates of a currency) influences world market prices depends upon the importance of rubber production or consumption in the country whose currency is affected.

Fluctuations of British and Dutch currency, as reflected in Federal Reserve annual average exchange rates from 1920 to 1939 are shown below. The domestic gold value of the United States dollar is also shown, based on the official Treasury buying rate for gold except for 1933, when its exchange value in then stable Swiss and Dutch currencies was the basis of the figure used.

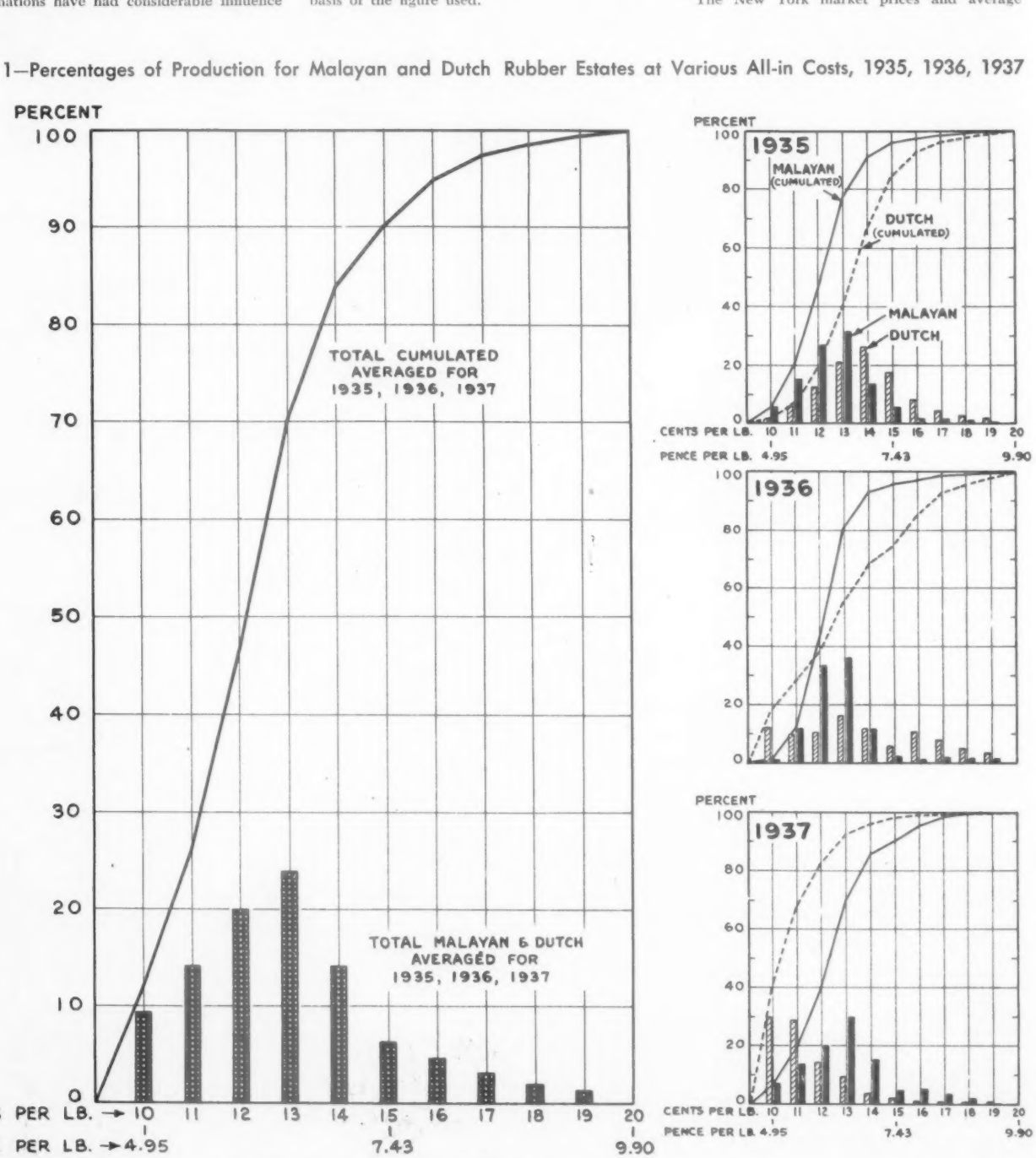
TABLE 20—Federal Reserve Annual Exchange Rates for British and Dutch Currency, and Domestic

(Gold Value of American dollar)

	British £	Guilder	U. S. $
1919	4.426	0.394	1.00
1920	3.664	.344	1.00
1921	3.849	.336	1.00
1922	4.429	.385	1.00
1923	4.575	.391	1.00
1924	4.417	.382	1.00
1925	4.829	.402	1.00
1926	4.858	.401	1.00
1927	4.861	.401	1.00
1928	4.866	.402	1.00
1929	4.857	.402	1.00
1930	4.862	.402	1.00
1931	4.535	.402	1.00
1932	3.506	.403	1.00
1933	4.237	.517	.78
1934	5.039	.674	.59
1935	4.902	.677	.59
1936	4.971	.645	.59
1937	4.944	.550	.59
1938	4.889	.550	.59
1939	4.435	.533	.59

The New York market prices and average

Chart 1—Percentages of Production for Malayan and Dutch Rubber Estates at Various All-in Costs, 1935, 1936, 1937



U. S. import values per lb. for rubber shown in Tables 1 and 2 are converted to the equivalent gold basis in the following table from 1931 through 1941.

TABLE 21—Indicated Gold Prices for Rubber (Cents per lb.)

	New York prices		Import unit value	
	Table 1	Gold Basis	Table 2	Gold Basis
1931	6.20	6.20	6.57	6.57
1932	3.47	3.47	3.50	3.50
1933	5.95	4.64	4.89	3.82
1934	12.93	7.63	9.80	5.78
1935	12.37	7.30	11.39	6.72
1936	16.51	9.74	14.93	8.81
1937	19.42	11.45	18.46	10.90
1938	14.70	8.68	14.10	8.32
1939	17.91	10.57	15.96	9.42
1940	20.24	11.95	17.37	10.25
1941	22.34	13.19	18.18	10.74

This table shows clearly that, in terms of domestic pre-1933 currency, the price of rubber has not increased since the 1929-1933 depression in anything like the degree popularly supposed. In terms of pre-1933 dollars the market price, averaged above 12c for a year only in 1941, while the annual average import value did not exceed 11c for any year shown.

It does not require an economist to see that in talking about prices *after* currencies were devaluated, direct comparison with the prices before devaluation of currencies is unfair. Market prices have to a startling degree been affected by what is called inflation; too little care has been exercised to qualify statements regarding prices and costs from this standpoint.

The "Statistical Bulletin of the IRRC" made note of the effect of gold values on London market prices under its section on prices, in the table reproduced in the following.

TABLE 22—London Standard Ribbed Smoked Sheet Prices

	Pence per lb. price of rubber		Index of price of gold in London
	Sterling	Gold	
1931	3 1/8	2 7/8	108.9
1932	2 11/32	1 11/16	139.0
1933	3 1/4	2 7/32	147.0
1934	6 7/32	3 27/32	162.0
1935	6	3 13/32	167.3
1936	7 3/4	4 1/16	165.1
1937	9 1/2	5 23/32	165.7
1938	7 7/32	4 5/16	167.8
1939	9	4 29/32	182.6
1940	12 1/16	6 3/32	197.8

There was a free market for gold in London until September 1939, after which the market was regulated. The gold indices were taken from the Monthly Bulletin of Statistics of the League of Nations, on the basis of the sterling price per fine ounce gold.

Practical business men, as well as the general public, are prone to think of their domestic currencies as having fixed values. It is believed that the devaluation of U. S. currency as well as foreign currencies needs constantly to be kept in mind in the period discussed in Tables 21 and 22.

Ocean Freight Rates and Insurance

The freight rates on rubber, from ports of the Far East to New York have on a few occasions been as low as $8.00 per ton, but the average peace-time rate has ranged from $12.00 to $15.00 per ton.

There has been a tendency for the rates to increase with rising prices of rubber and to decline with falling prices.

Rates have never been as low as 1/3c per lb. except perhaps for occasional tramp steamers, and the customary peace rate has been between ½c and ⅝c per lb. The rate just before Pearl Harbor was approximately 1c per lb. In World War I, the rate was at times as high as 4c per lb., but the volume of trade and attractiveness of rubber as a cargo make any such rates in future out of the question.

A great many factors enter into the question of ocean freight rates. The nature of the cargo, ease of handling, storage space per ton, and similar factors are general considerations for comparing one commodity with another. Rubber is a one-way cargo—the question of cargo on the outward leg of the voyage is an important consideration in connection with overall round trip costs.

Ocean routes for rubber from the Far East to the United States have varied tremendously

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in the period since 1933; at first most of the rubber came via the Mediterranean; later a large proportion was routed around Africa starting at the time of the Italian adventure in Ethiopia; World War II again shifted the route and rubber came directly across the Pacific and through the Panama Canal to New York.

The length of the routes and canal toll charges affected costs variously, but in an upward direction. And during all this period inflation effects of currency depreciation were probably affecting costs of shipping companies in a general way just as they were affecting costs and prices in many lines; seamen's wages followed a rising trend.

The risk that properly stored rubber will be damaged in transit is not large. Insurance claims result from improper storage causing overheating or breakage, from damage through breakage, of other cargo particularly oils, from salt water damage, from pilferage on docks and from ordinary shipwreck. Insurance against mold in transit requires a special clause in the contract.

The insurance charge on rubber was a very small cost item ranging from 1/20c to 1/40c per lb. in peace times for ordinary marine risk. War risk insurance is a separate factor, not pertinent to this discussion.

Assuming that the emery wheel of experience has demonstrated probabilities, it is believed unlikely that the ocean freight and insurance rates on rubber can be expected to average less than ½c per lb. in future periods of peace and that they should not average in excess of ⅝c, on the basis of U. S. currency before devaluation.

Taxes on Rubber Imports

Natural rubber as a raw material needed by every modern civilization has customarily entered most countries free of import duty. Furthermore the desire of rubber manufacturing countries to provide employment for labor in producing finished rubber goods at low enough prices to compete in international trade in rubber products is another factor.

Noteworthy exceptions to this general rule have occurred in recent years. Three examples of this suffice for purposes of this study.

The world trade depression of 1929-1933 entailed severe hardship for producers of rubber. French Indo-China then had a production considerably less than 20,000 tons. France, the mother country, was importing about 50,000 tons of rubber annually from all sources. In 1931, France imposed an import duty of 30 centimes per kilogram on imports of rubber and the rubber content of finished products. This revenue was employed in a Compensation Fund from which a subsidy in the form of premiums up to a maximum of three francs per kilogram of rubber exported, was given to rubber producers in Indo-China. The premium actually paid in 1931 was 2.09 francs per kilogram in the second quarter, 2.85 francs in the third quarter, and 3.00 francs in the fourth quarter. This relief continued throughout the depression, and kept the plantation industry in Indo-China on a sound financial basis. The cost of production data already supplied on Indo-China shows that this did not prevent that country from lowering its all-in costs below those of other countries in subsequent years.

Germany, in order to raise money for financing its program for the production of synthetic rubber, made effective an import duty on crude rubber, gutta percha, and balata on May 13, 1937. One effect of this was to preclude German competition in international trade in finished rubber goods except under barter arrangements or by subsidization.

Brazil, in order to stimulate domestic use of rubber produced in the country, has had restrictive regulations on imports of natural rubber, reclaimed rubber, and synthetic rubber.

The diverse tendencies indicated by these examples of import duties had one thing in common—all were nationalistic or isolationist in principle.

CONCLUSIONS

The writer's opinions, based on the foregoing review and previous rubber research experience, are that in the 1935-1938 period of Rubber Regulation:

I—Items Entering Into Price of Rubber

The items aggregated in the prices paid by manufacturers who have bought Far East rubber f.o.b. cars New York may be grouped as follows:

(A) Operating costs and profits of New York dealers.
(B) Overseas freight and insurance.
(C) Charges, costs, and profits of rubber producers.
(1) Profits, before income or profits taxes.
(2) Home office administration and directors' fees.
(3 Staff bonuses; commissions on purchases and sales.
(4) Amortization of estate; or replanting costs.
(5) Depreciation of buildings and machinery.
(6) Export taxes on rubber.
(7) Other costs f. o. b. Eastern port, including:
(a) Local taxes, except export taxes.
(b) Local transportation.
(c) Supplies and materials.
(d) Staff and labor, including research.
(e) Other services and miscellaneous costs.

II—Stable Unit of Value Desirable

It is desirable that costs be expressed in terms of a stable value. United States currency, since the dollar was devalued in 1933-34, has had a stable gold value of 59c, and is used for purposes of presenting conclusions based on present currency.

However, in order to facilitate comparisons with background data in the documentation for years prior to 1933, conclusions are also stated in terms of the dollar *before* devaluation, the term "gold basis" in parentheses being used to designate this value in paragraphs V and VII of these conclusions. This will serve to clarify the conclusions for future use, in case the dollar should hereafter undergo variations.

Use of American currency unavoidably conceals the internal price effects of devaluation of Dutch currency during the period on which conclusions are based. The effects of devaluation are to increase at least temporarily the competitive strength of rubber producers of the country, internationally, while a considerable period of time may elapse before this is reflected domestically in rising costs.

III—New York Dealers' Charges

The selling prices of New York dealers cover, in addition to CIF costs of the rubber itself:
(1) Profits, before income or profits taxes.
(2) Office, buying and selling expenses.
(3) Finance and credit charges.
(4) Warehouse and insurance charges.
(5) Entry, weighing and drayage charges.

Estimates of the cost of these dealers' services are peculiarly difficult because dealers engaged in business beyond the borders of these items, and derived considerable income from transactions on the Rubber Exchange and elsewhere.

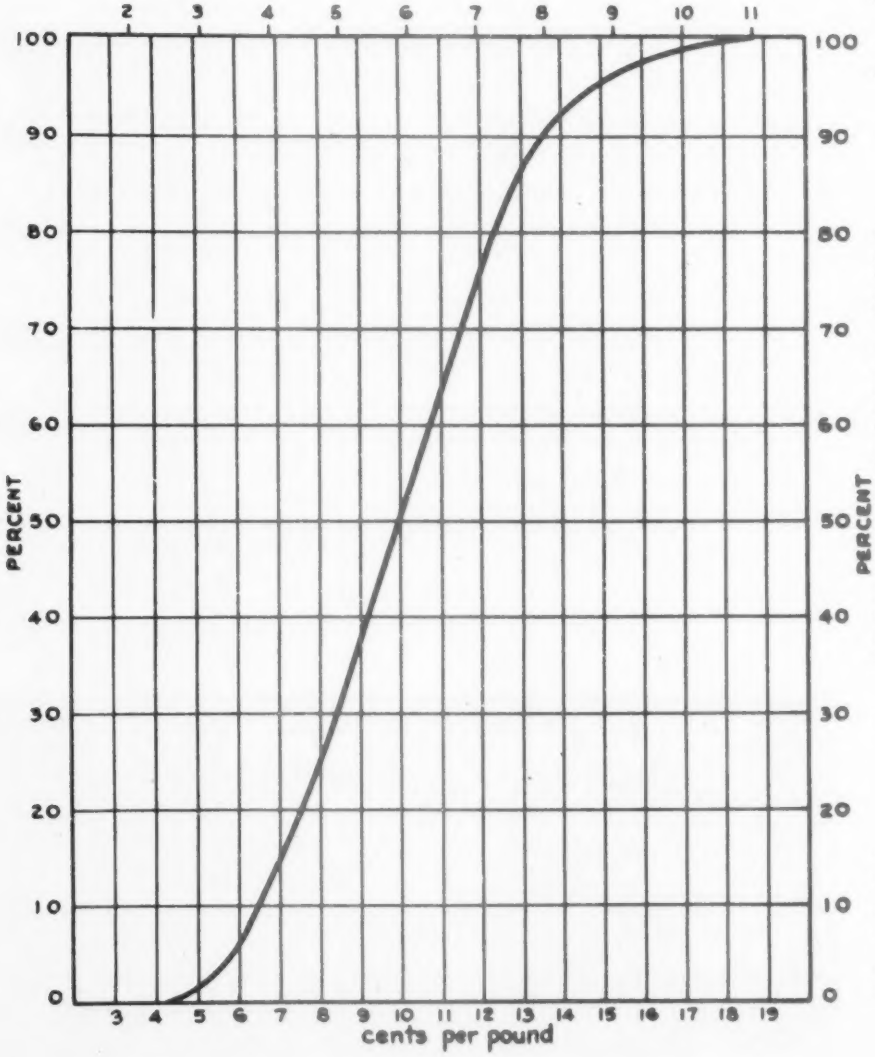
A reasonable amount for charges in this connection is believed to be about 2/3c a pound of rubber for the 1935-38 period.

IV—Groups of Producers in Order of Costs

The following order of arrangement shows,

Chart 2—Cumulated Percentages of Production of All-in Costs for Plantation Rubber Estimated for Period 1935-1938 (C. I. F. New York)

U. S. c Gold Basis



for *groups* of producers of plantation rubber, the approximate order of average all-in production costs per lb. of rubber toward the close of the 1935-1938 period, indicated by the evidence.

HIGH	Ceylon Sterling Companies
	Malayan Sterling Companies
	Dutch Estates
	Malayan Dollar Companies
	Ceylon Rupee Companies
	Indo-China Estates
	Ceylon Smallholders
	Malayan Smallholders
LOW	Dutch Natives

The groups are constituted of producers with different forms of organization, different trade practices, different standards of living, different types and qualities of product.

The order of arrangement does not necessarily imply relative efficiency, but does indicate that data heretofore provided on costs of Malayan and Dutch estates are high enough to cover all other classes of producers of plantation rubber.

All-in costs of individual producers in any group range likewise from high to low.

It is convenient to state at this point that conclusions are based on comprehensive consideration of all these classes of producers, with all the varying types and qualities of rubber which they produce taken as a composite.

V—Percentages of Production at Various All-in Costs

Accompanying chart 2 portrays the approximate percentages of total rubber production from planted areas in the Far East that were produced at various all-in costs of production in 1935-1938, in terms of U. S. currency (on the right side of the chart), as well as in terms of the gold basis equivalent (on the left side of the chart).

The curve represents the range of all-in costs per lb of rubber CIF New York, not including producers' profits. This range is not the equivalent of CIF prices, but is intended to cover the real overall costs per pound of rubber for all the producers listed in IV.

In preparation of this chart, the cost of special export taxes on Dutch Native rubber in 1935-1936 was eliminated and the Dutch Native rubber CIF cost considered free of that tax which was discontinued in 1937. This enables the ability of these producers to deliver rubber at low cost to be reflected in the chart.

The chart indicates that a small percentage of rubber reached New York at a cost (aside from the special tax on Dutch Native rubber) of 5.1c (3c gold basis) per lb., that approximately 30% of the total had a CIF cost under 8.5c (5c gold basis), and slightly over 50% under 10.2c (6c gold basis). This covers the production of the low cost producers. It is indicated that 90% of the total had a CIF cost under 13.6c (8c gold basis) and that at still higher costs only a small and rapidly diminishing percentage of the output was forthcoming. In general, the estates would fall in the range from 8.5c upwards, the natives in the range from 10.2c downwards.

It should be borne in mind that the costs represent the real costs, including items C-2 to C-7 inclusive (see I above) so far as the practice of the various groups of producers called for such expenses, under their forms of organization and practices.

It should be further noted that these costs are estimated for a four-year period during which the permissible export rate averaged 67⅞%, and that theoretically, at a 15% higher average rate of permissible exports, the costs would have been perhaps 1c (.59c gold basis) lower for the large estates, as the overhead expenses would have been spread over increased output.

The overall averaged c. i. f. cost of production for all qualities and types of plantation rubber in the period 1935-1938, based on this chart, was about 10c (5.9c gold basis) per lb.

VI—Ocean Freight and Insurance

During 1935-1938, the ocean freight and insurance ranged from ½c to ¾c U. S. currency per lb. These costs are included in the Chart under V.

VII—Variations in F. O. B. Costs Far East Ports

Referring to I above, some producers had no costs under items C-2, C-3, C-4 and C-5, while others had costs under some but not all of these items.

Under C-7, a Dutch Native would have little expense aside from his own labor, and as indicated in the compendium, his "costs" would be the price for which he was willing to sell the rubber he produced, under circumstances prevailing at the time. This "cost" has at times been extremely low.

On the other hand, there are some Malayan dollar and Ceylon rupee companies, for example, which with almost insignificant expense under C-2 to C-5, have so high costs under C-7 that they are barely competitive in all-in costs with high-yield sterling companies which have charges under all these items.

The point to this is that f. o. b. costs at Far East ports have less relation to the overall competitive strength of a particular producer than is sometimes supposed. The important thing is whether the New York CIF costs of the rubber he produces are competitive, in its particular quality. At 13.6c (8c gold basis) per lb. CIF New York, a particular high cost producer might have nearly all his expense, other than export tax and overseas freight and insurance, in the items listed under C-7, and yet his aggregate cost might be so great as to leave him little profit.

For these reasons, the percentage of total production produced at various ranges of f. o. b. cost Far East port cannot be stated with definiteness from available data.

At the low end, production of some Dutch native rubber would continue at 3.4c (2c gold basis) per lb., and there are some of the most efficient estates that could deliver their rubber at the same f. o. b. cost level, covering expense items listed under C-7.

At the other end of the scale, some competitive and therefore efficient producers would have very high f. o. b. costs.

On the large estates, it is believed that the great bulk of the production had an f. o. b. cost, including item under C-7, ranging from 3.4c to 7.65c (2c to 4½c gold basis) per lb. of rubber.

VIII—Long-Term Lower Costs From High-Yield Estates

The long-term trend of production costs, on a gold basis, was still downward at the outbreak of World War II, and lower costs would have resulted from conversion of estates to a high-yield basis.

IX—Temporarily Wider Range of Post-War Costs Expected

When Malaya and the Netherlands Indies are reoccupied, the writer believes it will be at least two years before average cost of rubber production on estates in those countries can regain former low levels, under the best circumstances, even if the trees are undamaged. They will have unusual expenses and problems of re-equipment, re-organization, staff procurement and training, to increase their costs in the immediate post-war years. The costs of native producers in the Netherlands Indies will be little influenced by the war, and in Malaya their costs will be less affected than costs on the estates. Estate costs in Ceylon and Indo-China will be less affected than in Malaya and the Netherlands Indies. There will therefore, for a period of years after enemy-occupied regions again are accessible, be a wider range of average costs for different groups of producers than in 1935-1938.

X—Producers Capable of Short-Term Reduced Costs

The ability of producers of natural rubber to supply rubber to the United States, for a temporary period at costs lower than those discussed above, was demonstrated in 1931-1933. However, even the 1-year record low 3½c average New York price and average U. S. import value for rubber in 1932 would mean nearly 6c per lb. in terms of present United States currency, and that price would not assure continuation of rubber estates in existence over a long period of years. While considerable native production would continue at such a price, it is probable that deterioration of properties would result in a few years, and certainly development of modern high-yield estates would be precluded. This study provides ample evidence that plantation rubber production costs are dynamic, and capable of downward adjustment to meet price conditions when demand is low. Output of natural rubber has been curtailed by low prices only when they failed to cover basic costs which were far less than total costs.

XI—Taxation Costs

Taxation has had an important bearing on all-in costs of rubber in past years. Allowable cost items, under taxes, have been taken to include items C-6 and C-7a (See I above), but not taxes on corporation income or profits, nor the special tax on exports of Dutch Native rubber.

XII—Exchange Rates

The post-war price of natural rubber will probably be influenced by any important variations in post-war exchange rates for the British pound and the Dutch guilder in relation to American currency. Presumably the United States price for rubber would be lower, at least temporarily, with the British pound at $3.00 than if it were stabilized at par ($4.86), for example. The price effect of variations in exchange rates on imported natural rubber might be considerable for a short time, while the effect of variations on the cost of domestic synthetic rubber production, in terms of U. S. currency, would perhaps be small for a period of years.

OPA Orders All Tire Dealers To Post Daily Inventories

NPN News Bureau

WASHINGTON—As a direct result of ODT National Tank Truck Advisory Committee here last month, OPA last week ordered all tire dealers who sell to consumers to post daily inventories of their stock of tires with a cross-section of 8.25 or larger. (*See NPN Aug 9, p. 3*)

"This action is being taken," OPA said, "because some dealers, as stocks get short, are representing to ration certificate holders that they have no tires for sale, when in fact tires are available."

(NPN was told recently that of tank truckers who have received heavy tire certifications from OPA emergency tire panels, only half have been able to find tires, due in part to situation pointed out above by OPA).

Tire dealers were also required, in the same action (Amendment 86 to RO 1A, effective Sept. 16), to sell any new tire in their inventory to any person who presents a valid tire rationing certificate and the purchase price of the tire.

Truslow in Rubber Post

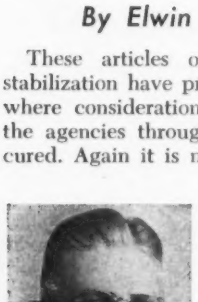
NPN News Bureau

WASHINGTON — Francis Adams Truslow last week became president of Rubber Development Corp., succeeding Douglas H. Allen, who resigned "for urgent private reasons", it was announced by Leo T. Crowley, foreign economic administrator and chairman of the board of the rubber corporation. Mr. Allen, leaving the post he had held since the corporation was founded in February, 1943, said his successor was an able lawyer who successfully served the corporation for two years as its special representative in Peru.

Defining Powers of the Various U. S. Agencies Concerned with Wage and Salary Stabilization

By Elwin E. Hadlick

These articles on wage and salary stabilization have progressed to the point where consideration should be given to the agencies through which relief is secured. Again it is necessary to point out that these articles are written for the petroleum industry; therefore, we will consider only those agencies with which the petroleum industry needs to deal.



Mr. Hadlick

The National War Labor Board has jurisdiction over all wage payments. Wages, as pointed out in a previous article, relate to amounts computed on an hourly or daily basis, a piecework basis, or other comparable basis. This board also has jurisdiction over all salary payments made to any employe who is represented by a duly recognized or certified labor organization, regardless of how much the salary amounts to. On the other hand, in the case of employes not represented by a labor organization, the board has jurisdiction in all situations where the basic salary, not including bonuses and additional payments, is not in excess of $5000 per year, except in those cases where the employe is properly classified as executive, administrative or professional.

Executive, administrative and professional employes come under the jurisdiction of the Salary Stabilization Unit, and an explanation of how they are determined to be such will be carried in connection with the consideration of the jurisdiction of that agency.

Treasury Jurisdiction

The other agency with which the petroleum industry must deal is the Commissioner of Internal Revenue. He has in turn set up an inter-office agency for this purpose known as the Salary Stabilization Unit. To avoid confusion and to conserve words we will hereafter refer to the National War Labor Board as the Board, and to the Commissioner of Internal Revenue or his Salary Stabilization Unit as the Treasury.

The Treasury has jurisdiction over all salaries not handled either by the Board or by the War Food Administrator; the petroleum industry is not concerned with the latter. That is to say that the Treasury handles cases involving salaries of more than $5000 regardless of who gets them; it also handles cases of executive, administrative and professional employes no matter at what rate they are paid, whether above or below $5000.

There is one important thing to note in connection with the Treasury jurisdiction which is different from Board jurisdiction. In the case of the Board, as pointed out in the previous article, the authorized increases may be allowed regardless of their effect on the level of production costs or on prices, except in the case of increases due to promotions, reclassifications, merit increases, incentive wages or the like.

The Treasury is prohibited from authorizing any increase in salary which will increase the level of production costs appreciably or furnish the basis either to increase prices or to resist otherwise justifiable reductions in prices or furnish the basis of further wage or salary increases.

Definitions Sometimes Clash

On the other hand, any adjustment made by the Board which may furnish the basis either to increase price ceilings or to resist otherwise justifiable reductions in price ceilings, or if no price ceilings are involved which may increase the production costs above the level prevailing in comparable plants or establishments, is subject to the approval of the Economic Stabilization Director.

Jurisdiction of the various federal agencies in connection with wage and salary stabilization is explained in the accompanying article by Elwin E. Hadlick, prominent Minneapolis attorney and oil marketing association executive. This is the third article on this subject and the 27th in Mr. Hadlick's series on war-oil compliance regulations.

The Board and the Treasury both find it necessary to define words which are used in granting them jurisdiction and in setting their methods of operation; it isn't always that these two agencies adopt the same meaning for a particular word, and when they disagree confusion results. It is fortunate that the agencies have agreed on the definition of executive, administrative and professional employes for without agreement here employers might find themselves with both agencies claiming jurisdiction. In connection with these words the two agencies did the very sensible thing of adopting the definitions set up under the wages and hours law; any employer who has determined that he has or has not employes in these three classifications under the wages and hours law can follow the same decisions under wage and salary stabilization.

There are six qualifications to make an executive; all six must be met; it is not sufficient to meet two, three, four or five of the conditions except in one instance which will be mentioned. To be considered as an executive an employe must have as his primary duty the management of the establishment in which he is employed or the management of a customarily recognized department or subdivision thereof. That is the first requirement, and the second is that he must customarily and regularly direct the work of other employes.

Executive Employe Defined

As a third qualification an executive must have authority to hire or fire other employes, or at least he must be one whose suggestions and recommendations as to the hiring or firing and as to the advancement and promotion or any change of status of other employes will be given particular weight.

An executive employe must exercise discretionary powers. He must be compensated for his services on a salary basis at not less than $30 per week exclusive of board, lodging, or other facilities. Finally, his hours of work of the same nature as that performed by employes not employed in an executive, administrative or professional capacity must not exceed 20 per cent of the total number of hours worked in the workweek by the employes under his direction. This final requirement does not apply to one who otherwise qualifies if he is employed in sole charge of an independent establishment or a physically separated branch establishment; this is the sole and only exception, and it is the one referred to at the beginning of this paragraph.

The determination of an administrative employe is quite different from that of an executive. In this classification only two tests need be met, and there are four ways in which to meet the second test. Anyone who is to be classified as an administrative employe must be compensated at a salary or fee basis of not less than $200 per month exclusive of board, lodging or other facilities.

Other Standards To Be Met

Having met that qualification, the employe must meet one more of the following four standards if he is to be classified as administrative: (1) He must regularly and directly assist an employe who is in an executive or administrative capacity, and such assistance must be nonmanual in nature and must require the exercise of discretion and independent judgment; or (2) he must perform responsible nonmanual office or field work directly related to management policies or general business operations, along specialized or technical lines requiring

special training, experience, or knowledge and requiring the exercise of discretion and independent judgment, under only general supervision; or (3) he must be doing work which involves the execution under only general supervision of special nonmanual assignments and tasks directly related to management policies or general business operations, these assignments involving the exercise of discretion and independent judgment; or (4) he must be engaged in transporting goods or passengers for hire and performing responsible outside work of a specialized or technical nature requiring special training, experience or knowledge, and the exercise of discretion and independent judgment, and under only general supervision.

To determine whether or not an employe is in the professional category it is first necessary to find that he is paid at a salary of not less than $200 per month exclusive of board, lodging or other facilities, unless he holds a valid license or certificate permitting the practice of law or medicine or any of their branches and is actually engaged in the practice of the profession for which he is licensed. The holding of the license and the practicing in the profession for which licensed replaces the salary requirement. Given the meeting of either of these provisions, an employe must meet five additional qualifications.

The professional employe must be engaged in work which is predominantly intellectual and varied in character as opposed to routine mental, manual, mechanical, or physical work. He must be doing work which requires the consistent exercise of discretion and judgment in its performance. His tasks must be of such a character that the output produced or the result accomplished cannot be standardized in relation to a given period of time.

The fourth requirement is that the hours of work of this employe during which he performs work of the same nature as that performed by employes not in an executive, administrative or professional capacity must not exceed 20 per cent of the hours worked during the workweek; this requirement need not be met where the non-professional work is an essential part of and necessarily incident to work of a professional nature.

The final requirement for professional classification is in the alternative; an executive employe must be engaged in work which requires knowledge of an advanced type in a field of science or learning customarily acquired by a prolonged course of specialized intellectual instruction and study, as distinguished from a general academic education and from an apprenticeship, and from training in the performance of routine mental, manual, or physical processes; or his work must be predominantly original and creative in character in a recognized field of artistic endeavor as opposed to work which can be produced by a person endowed with general manual or intellectual ability and training, and the result of which work depends primarily on the invention, imagination or talent of the employe.

Index of Week's War-Oil Orders

(Issued September 9-16, 1944)

PAW—Petroleum Administration for War

Petroleum Directive 64, Revocation—Directive allocating crude to Dist. 2 refiners abandoned.

OPA—Office of Price Administration

2nd Rev. Max Export Price Reg., Am. 10—sales to exporters

RMPR 165, SSR 35—Scrap rubber processing charge increased ¼c lb.

RMPR 436, Order 23—Ceiling for Reagan Nose Pool, Montana, crude

Order 24—Ceiling on crude from Lost Spring East Pool, Kansas

Order 25—Crude ceiling, Varner Pool, Indiana

RO 1A, Am. 86—Dealers required to post large-size truck tire inventories daily

RO 5C, Am. 148—Rations for non-occupational use of boats

Am. 149—Notations on coupons by ration holder

Am. 150—Transfer of R coupons at retail outlets no longer prohibited

Am. 151—Detached Class A coupons numbered "12" are valid

RO 9A, Order 1—Ariz. and parts of Fla. and Calif. removed from stove-rationing emergency oil shortage area

Rev. RO 11, Am. 26—Rules governing fuel oil coupon surrender

Admin. Exception Order 5—Granting of fuel oil rations as a unit in Farrell, Pa., Federal trailer camp

WPB—War Production Board

M-133, Revocation—Rotenone allocation to be governed by M-300

M-150, as am. 9-8-44—Restrictions on aromatic solvents

M-170, Revocation — Pyrethrum allocation now governed by M-300

CMP 6, Direction 1 as am. 9-11-44—Special procedure for authorization of construction

Pri. Reg. 25, Interp. 1—Use of other ratings and allotments prohibited in filling production schedule authorized under Pri. Reg. 25

NWLB—National War Labor Board

Am. to Rules of Org.—Make-up of Post-Directive Committee altered

FEA—Foreign Economic Administration

Current Export Bulletin 190 — Export of petroleum products

CODE: AO—Administrative Order; CMP—Controlled Materials Plan; D—Directive; FDO—Food Distribution Order; GMPR—General Maximum Price Regulation; GO—General Order; Interp.—Interpretation; L—Limitation Order; M—Conservation Order; MPR—Maximum Price Regulation; P—Preference Rating Order; PAO—Petroleum Administrative Order; Pri. Reg.—Priorities Regulation; Proc. Reg.—Procedural Regulation; PS—Price Schedule; RO—Ration Order; RPS—Revised Price Schedule; SO—Supplementary Order; SR—Supplementary Regulation.

Digest of Week's War-Oil Orders

Petroleum Administration for War

DIRECTIVE ALLOCATING CRUDE TO DIST. 2 REFINERS ABANDONED—Petroleum Directive 24, Revocation—Issued and effective 9-14.

Office of Price Administration

SALES TO EXPORTERS — 2nd RMEPR, Am. 10—Charges for preparing, packing, or otherwise servicing a commodity sold to an exporter for shipment abroad, or installing or servicing it after shipment abroad, may be added to the ceiling, invoiced separately, in the amount by which cost of these services exceeds cost of similar services on domestic sales (unless domestic ceiling expressly includes packing charges). Sellers of commodities governed by price regulations not containing separate export prices may apply to OPA Export-Import Price Branch for approval of ceilings or pricing methods reflecting such packing charge. Issued 9-12, effective 9-18.

SCRAP RUBBER PROCESSING CHARGE INCREASED ¼c POUND—RMPR 165, SSR 35—Seller's charge for processing into reclaimed rubber scrap furnished by buyer may be raised ¼c per lb. reclaimed rubber over RMPR 165's ceiling. Issued 9-8, effective 9-13.

CEILING FOR REAGAN NOSE POOL, MONTANA, CRUDE—RMPR 436, Order 23—35c increase granted Reagan Nose Pool crude. Issued 9-12, effective 8-1.

CEILING ON CRUDE FROM LOST SPRINGS EAST POOL, KANSAS—RMPR 436, Order 24—25c set as Lost Springs East Pool increase. Issued 9-12, effective 8-1.

VARNER POOL, INDIANA, CRUDE CEILING—RMPR 436, Order 25 — 35c increase granted Varner Pool crude. Issued 9-12, effective 8-1.

DEALERS REQUIRED TO POST LARGE-SIZE TRUCK TIRE INVENTORIES DAILY —RO 1 A, Am. 86—Notice must be posted at start of each business day in a conspicuous place at every dealer's establishment, as to inventory of new 8.25 and larger truck tires by sizes. Dealers must sell new tires in inventory upon presentation by anyone of proper tire ration certificate together with purchase price. Refusal to sell tires to a certificate holder or failure to post inventories may result in OPA's prohibiting dealer from acquiring tires for resale. Issued 9-11, effective 9-16.

GASOLINE RATIONS FOR NON-OCCUPATIONAL USE OF BOATS—RO 5C, Am. 148—Inboard motorboats allowed gallonage on E or R coupons not exceeding twice rated horse-

OIL-LAW-Gram Service

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power of motor, and not exceeding 125 gals. for conducted fishing parties and Coast Guard auxiliary boats (enrolled). All other non-occupational purposes allowed only 24 gal. Outboard motors permitted not over 2½ times rated horsepower, and not exceeding 20 gals. for conducted fishing parties and Coast Guard auxiliary boats, nor 10 gals. for any other non-occupational purpose. Boats used in connection with farming entitled to twice the above ration, issued for six-month period. Issued 9-16, effective 10-1.

NOTATIONS ON COUPONS BY RATION HOLDER—RO 5C, Am. 149—Operators of commercial vehicles not bearing fleet designations who use serially numbered coupons must write name and address of ration holder (instead of certificate of war necessity number) on face of coupons. Issued 9-16, effective 10-1.

TRANSFER OF R COUPONS AT RETAIL OUTLETS NO LONGER PROHIBITED—RO 5C, Am. 150—Issued 9-18, effective 9-22.

DETACHED CLASS A COUPONS NUMBERED "12" ARE VALID—RO 5C, Am. 151—Coupons detached from back of coupon book in order to turn in back cover with renewal application are valid though detached, if license number and state endorsed thereon agree with those noted on cover presented at time of gasoline transfer. Issued and effective 9-9.

ARIZONA AND PARTS OF FLORIDA AND CALIFORNIA REMOVED FROM STOVE EMERGENCY OIL SHORTAGE AREA—RO 9A, Order 1—Because of scarcity of coal and wood in these regions, residents are not to be limited to the acquisition of coal-wood heating stoves. Issued and effective 9-9.

RULES GOVERNING FUEL OIL COUPON SURRENDER—Rev. RO 11, Am. 26—Detachment of coupons from consumer's coupon sheet by dealer before transfer of fuel oil forbidden. Delivery by dealer to consumer who has not properly surrendered coupons for a previous fuel oil transfer prohibited. Dealers may not accept and primary suppliers may not make transfers for which the surrender of evidences is required unless the dealer has on hand evidences or credits equal in gallonage value to the amount of fuel oil to be transferred. Dealers within the limitation area may not transfer to a primary supplier fuel oil for which they know, or have reason to believe, he has not sufficient evidences on hand. Dealers and primary suppliers must report within 7 days to OPA District Office all transferees who fail to surrender evidences within 15 days after due date. Issued 9-18, effective 9-22.

GRANTING OF FUEL OIL RATIONS AS A UNIT IN FARRELL, PA., FEDERAL TRAILER CAMP—Rev. RO 11, Admin. Exception Order 5—Since trailers in FPHA trailer camp at Farrell, Pa., are rented on weekly basis, and occupants change frequently, Federal Public Housing Authority is permitted to apply on Form R-1100 (Revised) and R-1103 or R-1103A for rations for all fuel-oil heating and cooking equipment in the trailers, heating ration to be figured on the basis of the total floor area of all of the trailers. Issued and effective 9-9.

War Production Board

ROTENONE ALLOCATION TO BE GOVERNED BY M-300—M-133, Revocation—Prior to 10-31-44 rotenone may be delivered, accepted, and used in accordance with M-133 authorizations. Issued 9-13.

RESTRICTIONS ON AROMATIC SOLVENTS—M-150, as am. 9-8-44—Class A and Class B blends are added to Class A and Class B solvents as mixtures under M-150's control. Production or use of Class A solvents and blends prohibited for dry cleaning fluid, type washes, or coatings. Class B solvents and blends may be produced only for making Class B blends, for processing certain vital war materials, and for research and experimental purposes (not exceeding 55 gals. per month). Issued 9-8.

PYRETHRUM ALLOCATION NOW GOVERNED BY M-300—M-179, Revocation—Prior to 10-31-44 pyrethrum may be delivered, accepted and used in accordance with M-179 authorizations. Issued 9-13.

SPECIAL PROCEDURE FOR AUTHORIZATION OF CONSTRUCTION—CMP 6, Direction 1 as am. 9-11-44 — Procedure for construction authorized on Form GA 1456 (commercial and industrial construction in general, but excluding housing, petroleum facilities, and other specialized construction) is outlined in Direction 1. Transfers of allotments or preference ratings by applicants are not permitted unless transfer of the related authorization to begin construction is approved by the authorizing agency. Allotment symbol and preference rating may not be used by applicant in placing authorized controlled material orders or rated orders after expiration date of project, but delivery after such date permitted on orders placed before then. Issued 9-11.

USE OF OTHER RATINGS AND ALLOTMENTS TO FILL PRODUCTION SCHEDULE AUTHORIZED UNDER PRI. REG. 25 PROHIBITED—Pri. Reg. 25, Interp. 1—Persons authorized to produce a product pursuant to application on Form WPB 4000 may not thereafter apply on any other form to obtain production materials for that article, except for those materials which can be obtained on special forms such as WPB-1319. Issued 9-14.

National War Labor Board

MAKE-UP OF POST-DIRECTIVE COMMITTEE ALTERED—NWLB Rules of Procedure, Am.—Two representatives of labor and two of industry, as well as two public members, who shall serve as Chairmen, will make up the NWLB Post-Directive Committee hereafter. Adopted 8-30, filed 9-12.

Foreign Economic Administration

EXPORT OF PETROLEUM PRODUCTS—Current Export Bulletin 190—Export documents authorizing shipment of petroleum and petroleum products will henceforth be limited in validity as follows: To Mexico, 90 days for natural gasoline, motor fuels, kerosine, gas oil and distillate fuel oil, with no authorization for paraffins, and 6 months for all other petroleum and petroleum products; to Eire, from date of validation to 10 days after end of following calendar quarter; 3 months and 10 days to all other "selected" destinations; 6 months to all other destinations. Outstanding licenses will continue valid for period originally indicated. Issued 9-6.

Wave of Gasoline Coupon Holdups and Burglaries Makes Chicago Dealers Cry for OPA Assistance

NPN News Bureau

CHICAGO — Service stations, bulk plants, truck drivers and messengers in the metropolitan Chicago area have been robbed of gasoline and fuel oil coupons with greatly increased frequency during the past three months.

A check-up of 14 oil companies which operate a majority of bulk plants and supply products to most of the retail outlets, reveals that 35 such robberies, holdups and thefts have been reported since June 13, and there are indications that numerous others have taken place of which no definite record has been made or where the checkup is not yet complete. The coupon gallonage lost in most cases is not large, but oil company marketing department heads assert the situation is rapidly approaching gangster activity of the prohibition era.

Since OPA has had considerable success in the counterfeit coupon drive, they assert, black market operators have turned to robbery in order to obtain legitimate coupons.

Remedies Suggested

Investigation reveals that messengers and truck drivers are being trailed, forced to the curb and relieved of their collection of coupons, or that coupons are stolen from the truck cabs while the drivers are making deliveries. The 35 robberies reported by the 14 oil companies include 12 bulk plant holdups or burglaries. In one instance the manager was bound and left lying on the floor and in another the night watchman was shot and seriously wounded.

Various remedies have been suggested for the situation, with ration banking for service stations believed to be the most satisfactory. However, OPA has so far refused this measure as too involved and expensive. Other ideals are to mutilate the coupons as truck drivers collect them at service stations by punching, stamping or marking. Doing this in some uniform method, without destroying the coupon or car license numbers and OPA's means of tracing counterfeits, probably would be difficult.

Sinclair Refining Co., with 15 robberies netting the black market coupons for 113,577 gal. of gasoline and 9,732 gal. of fuel oil is the largest loser reported to date. Sinclair has had three bulk plant holdups, one driver relieved of his coupons at the point of a gun, and 11 bundles of coupons stolen from truck cabs.

Next in point of loss comes Standard of Indiana with two bulk plant holdups and one bulk plant burglary; coupons and $50 in cash stolen from a truck cab and a messenger held up with a gun and relieved of a brief case which contained only company mail. Total loss to date is coupons good for 39,464 gal. of gasoline and 1,290 gal. of fuel oil, plus $1,883 in currency and checks.

Socony Vacuum losses amount to 35,300 gal. in coupons, with 30,000 gal. taken in one bulk plant holdup.

Shell Oil Co. losses total 17,646 gal. in one bulk plant office robbery, five truck cab thefts and one driver forced to the curb.

Other Companies Robbed

Losses by The Texas Co. through eight coupon thefts from truck cabs total 18,670 gal.

Cities Service Oil Co. lost 3350 gal. in coupons stolen from a truck cab. Phillips Petroleum Co. reported loss of coupons good for 5000 gal. of gasoline in a similar manner. Continental Oil Co. has had several losses.

A night watchman for National Gas & Oil Sales Co. discovered three men had broken a window in the bulk plant

office and, in attempting to apprehend them, was shot in the abdomen. The burglars fled, but it is believed they were after coupons.

A glance at the dates shows the increased tempo of the coupon thieves' activity. Seven of the crimes took place from June 13 to June 30, ten in July, fifteen in August and three in the first ten days of September. Efforts of police and secret service so far have been ineffective in stopping the robberies, the oil men assert, and OPA is being urged in some manner to relieve truck drivers from having to collect and bring in coupons that are still valid, especially when they must make delivery stops enroute, requiring them to leave their cabs.

Michigan Field Allowables Shifted by New Order

Special to NPN

LANSING, MICH. — Testimony presented at the Aug. 30 proration hearing held here has resulted in issuance of Proration Order No. 17 by P. J. Hoffmaster, supervisor of wells, changing the per well allowable in various fields, effective Sept. 16.

The new order reduced the allowable production from the Dundee formation in North Adams field from 150 b/d to 125 b/d per well, and set the allowable from the same formation in the Deep River field at 300 b/d per well. The allowable specified for other fields follows:

Field	——B/D per well—— 20-acre unit	40-acre unit
Evart—Dundee formation	86	150
Fork—Dundee formation	...	125
Headquarters— Traverse formation	125	218.75
Reed City— Monroe formation	100	175
Reed City— Traverse formation	125	218.75
Rose Lake— Traverse formation	150	262.5

Wells drilled on tracts smaller than full drilling units are limited in production to the ratio of the area of the tract, except for a 20 b/d minimum in order to prevent premature abandonment. Other stipulations in the order are that large production wells are not permitted to produce in excess of the allowable to make up for underproduction of smaller wells on the same lease; underproduction for one month, due to shutdowns and other causes, cannot be carried over and made up during the following month;

Commingling of oil from different formations is permitted if individual wells are regulated to produce within the allowable, and tanks or separators on multiple well leases are hooked up so that each well may be tested separately.

New 'A' Ration Books To Offer Variety Of Improvements

NPN News Bureau

WASHINGTON—The new "A" books that go into use outside the East on Sept. 22 will have many new features, such as serial numbering and a new secret type of safety paper, which will make them "virtually impossible" to counterfeit, OPA said this week.

The new "A" books will become valid for use at 12:10 a.m., Sept. 22, when the current "A-12's", the last coupons in the old "A" book, expire. Renewal applications are now being handled by local ration boards in most areas, and the new coupons will soon be in the hands of ration-holders.

The improved safety features incorporated in the new coupons do not lessen the importance of all holders properly endorsing their coupons as soon as they are received and of service station attendants checking the endorsements on coupons which they accept for gasoline, OPA emphasized.

'Much Simpler' to Detect

The new safety features will make it "much simpler" to detect counterfeit and stolen coupons when they are examined in OPA's eight regional verification centers, to which all coupons are now sent by the ration banks where they are deposited after use, the rationing agency pointed out. However, it added, it is the endorsement that makes it possible to trace an illegal coupon to the person who put it into circulation—whether he is a motorist who wrote his own license number on it so that a service station operator would accept it, or a dealer who bought black market coupons to cover sales of gasoline without coupons and then endorsed them himself with false or non-existent numbers.

The serial number is primarily useful in spotting stolen coupons. Without serial numbers, all coupons look alike after they are torn out of their books, and it is impossible to identify a stolen one. But a serially-numbered coupon can be traced by its number from the plant that printed it to the board that received it or the person to whom it was issued. All regional verification centers are given lists of the numbers of coupons reported stolen, and incoming "bingo sheets" are watched for these numbers.

The new safety paper, which was devised by the Government Printing Office, has a secret test built into it known only to identification experts in the region and national offices of OPA and the Government Printing Office. The new paper will be much harder to imitate than the old, and even expert imitations will be easily detected when the new test is applied in the verification centers, according to OPA.

The new paper is yellow, with processed design—an eagle and the letters "USA"—printed in red. The overprint is purple, except for the serial number, which is printed in black.

Other features of the new "A" books:

The coupons are numbered A-13 through A-17, six of each. The six A-13 coupons will be valid for 3 months from Sept. 22 through Dec. 21. As each coupon will be worth four gallons of gasoline, this will provide the same three-month driving allowance as the present ration, which consists of eight 3-gal. coupons for a three-month period. (Coupons in the A-14 through A-17 series will be valid for subsequent quarters.)

Serial Number Repeated

The 30 coupons are printed in a sheet five by eight inches with a two-inch strip on one end that serves as a cover when the sheet is folded. This cover, like the cover of the present "A" book, will have space for the name and address of the ration-holder, his automobile license number and state of registration, and the year, make and model of his automobile.

The cover also displays the same serial number that is repeated on each of the coupons, and the following instructions:

"1. Coupons can be used only in connection with the vehicle described on the front cover. Detached coupons are VOID.

"2. If you stop using your car, this book and all unused coupons must be surrendered to your board within 5 days.

"3. If you sell your car, this book and all unused coupons must be surrendered to your board. The purchaser will not be issued a gasoline ration unless he presents the receipt which you receive at the time of such surrender."

On the reverse side of the cover is printed:

"NOTICE: YOU MUST IMMEDIATELY WRITE OR STAMP YOUR CAR LICENSE NUMBER AND STATE OF REGISTRATION ON THE FACE OF EACH COUPON. Otherwise these coupons are INVALID and may be revoked."

Changes in OPA Personnel Continue in Chicago

NPN News Bureau

CHICAGO—OPA's district office here last week added two new appointments to its rapidly growing list of changes in executive personnel. James F. Riley, chief rationing executive of the district office was named acting deputy director on Sept. 8 and will assist Marion W. Isbell, acting area director. Mr. Riley, a former insurance executive, has been with OPA since its inception in December of 1941.

Alva E. Bradley, regional head of the industrial materials and manufacturing section of OPA succeeds Dr. Elmo P. Hohman as acting area price executive. Dr. Hohman resigned Sept. 8 to join the War Labor Board staff.

Auto and Plane Engineers Scan New Developments In Gas Turbines for Hint of New Power Plant

By A. H. Allen,
NPN Detroit Correspondent

DETROIT — The gas turbine is creeping to the forefront as a possible contender for honors in the prime mover field, both in heavy and medium horsepowers. So far, it is pretty largely in the discussion stage, but recent reports brought to this country by British experimenters have proved illuminating, and there has been a perceptible quickening of interest in the possible future application of the gas turbine as the power plant for airplanes and automobiles.

Essentially, the gas turbine comprises a co-axially mounted compressor or blower turbine system, output of the compressor being directed to a combustion chamber where fuel is ignited with it and the resulting blast serves to drive the turbine blades.

Two principal difficulties have had to be surmounted in development of the system as a practical means of supplying power: one is the high proportion of the power output of the turbine required to drive the compressor; the other is the perfection of metals and alloys to withstand the heat and scoring action of the combustion gases. The former has been attacked by the development of multi-stage axial flow compressors instead of centrifugal blowers; the latter by the development of new alloys such as vitallium—now being used successfully in the buckets of turbo-superchargers for aircraft.

Up to the present the gas turbine has been more successful in the high horsepowers and large sizes such as might be suitable for powering ships or locomotives, than in the smaller ranges for possible use in aircraft or automobiles. However, there is no gainsaying the fact that the turbine, if it can be perfected, will greatly improve the efficiency realized from fuels, will greatly reduce lubricating maintenance costs, and will permit utilization of a wide variety of fuels of lower grade than gasoline.

The present Otto cycle gasoline engine is recognized as a low-efficiency unit, utilizing perhaps only 20 per cent of the power in its fuel. Friction losses, inertia losses and heat losses all are large. The turbine, on the other hand, with no reciprocating parts and with the only metal-to-metal contact in the main driveshaft bearing surfaces, circumvents most of the deficiencies of the Otto cycle engine.

The gas turbine is definitely not a new development. General Electric Co. has been experimenting with them for 40 years, and the Swiss firm of Brown-Boveri & Co. previously an even longer time. Allis Chalmers & Co. builds gas turbines of the Brown-Boveri type in this country.

In addition to its improved efficiency, the gas turbine also has an important advantage over Otto Cycle engines in that its size for comparable horsepower may be very much smaller. It has been asserted that a gas turbine unit supplying sufficient power to propel the average automobile could be enclosed in the glove box of such a car. While paper calculations undoubtedly show this to be true, it must be pointed out that as yet no one has ever built such a turbine in such a size, and there are grave doubts whether it could be done at the present stage of the art.

Small size and smooth power flow logically make the gas turbine an ideal power plant for aircraft, and it is surprising to some engineers that the gas turbine development did not precede the application of the jet propulsion principle, since with the turbine it is not so essential to go to speeds above 500 miles per hour to realize fuel efficiency, as is the case with the jet propulsion engine. Another advantage of the gas turbine in aircraft is that it can be made self-compensating for change in altitude with their accompanying variations in atmospheric pressure.

It may well be that aircraft powered by gas turbines are already under test by the military services. If so, they have been carefully shrouded in secrecy, but it is known that one of the large builders of liquid-cooled engines has a new power plant under test which is popularly believed to be a jet propulsion engine, but which more likely may be a gas turbine.

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Robert Cass Among Speakers At Mid-Continent SAE Meet

NPN News Bureau

TULSA—Robert Cass, chief engineer of the White Motor Co., has been engaged as the principal speaker for the Mid-Continent Section of the Society of Automotive Engineers' first meeting of the fall season to be held at the Biltmore Hotel, Oklahoma City, Friday evening, October 6.

"Motor Vehicle Power Plants and Transmission Line Units", will be the subject discussed by Mr. Cass from the standpoint of postwar development of gasoline and diesel truck engines in relation to available fuels. The White Motor Co. for the past several years has been engaged almost exclusively in the manufacture of Scout Cars, Half-Tracks, Tank Destroyers, Prime Movers and Cargo Trucks for the U. S. Army Ordnance Department.

While the complete story of the war performance of this equipment can not yet be told, Mr. Cass will reveal those improvements in engine parts, gear drives and accessories which will greatly influence the performance, safety and maintenance of postwar trucks and buses.

A graduate of the University of London, Mr. Cass was in the Royal Naval Air Service during World War I.

Former OPA Officials Face Early Trial In Scranton Scandal

Special to NPN

SCRANTON, Pa.—OPA cases involving gasoline ration coupon counterfeiting, trafficking in illegal gasoline coupons, an attempt to bribe a federal agent investigating a service station, and a wide variety of charges against ousted officials of the Scranton OPA District will highlight the October session of federal criminal court in this city.

Federal Judge Albert L. Watson is expected to set trials for the ousted OPA officials for the October term. These officials are: W. Frank Snyder, district director, now a patient in a hospital at Carlisle, Pa. Arthur A. Maskery, district rationing executive; Attorney Paul F. Gibbons, enforcement attorney; Henry C. Walsh, mileage rationing representative, the latter charged with supplying gasoline coupons to peddlers.

George A. Nesbit, local automobile accessories salesman, and Sidney Friedman, service station operator, charged with being involved with OPA officials in illegal peddling and use of legitimate coupons, will also be scheduled for trial in October, it is expected. Joseph Bittenbender, Wilkes-Barre sugar broker, charged with being connected with illegal rationing of sugar, is scheduled for arraignment next week in Federal Court.

Meantime, motions to quash informations and warrants issued against Maskery and Bittenbender were presented in Federal Court last week and the court fixed Sept. 29 as a date for argument. Both Maskery and Bittenbender, in their motions to quash, claimed that informations and warrants issued fail to show that they violated criminal law of the United States or the constitution. Snyder was unable to appear for arraignment due to his illness.

Increased enforcement activities thus far have resulted in seven individuals being arrested for dealing illegally in counterfeit or legitimate gasoline coupons.

Among the cases listed for trial at the October term are:

Louis Salerno, Old Forge, charged with trafficking in counterfeit coupons.

Louis Sofka, Scranton, charged with possession, use and transfer of counterfeit coupons.

Joseph Milazzo, Pittston service station operator, charged with selling gasoline without collecting coupons, illegal possession of coupons and a shortage of gasoline inventory. Milazzo is also charged with attempting to bribe Michael Ruddy, OPA investigator, who checked the records at the service station in Pittston.

Henry Balkan, Jessup, a truck driver, charged with trafficking in counterfeit coupons, including large numbers of hundred-gallon inventory units.

Felix Scott, station operator at Nanticoke, charged with dealing in hundreds of counterfeit gasoline coupons.

Steve and Helen Schmidly, owners of a station at Plains, also charged with possession and use of hundreds of counterfeit ration coupons.

All of the defendants previously mentioned are either under bail or are prisoners in County Jails pending their appearances in court on Oct. 16. OPA enforcement officials anticipate that there will be additional arrests in time to have trials set for Oct. 16.

OPA Investigators Wanted

NPN News Bureau

CLEVELAND—OPA investigators, at salaries from $3100 to $4400, are still needed in the Fuel and Durable Goods Unit of OPA in the Cleveland region, officials at OPA tell NPN.

The work involves some travel, and the applicants should be grounded in marketing, selling, and pricing practices in the petroleum industry at all levels except retail station operations. Positions are open for both supervising investigators and assistants.

Further information may be obtained from the U. S. Civil Service Commission representative for OPA, Room 1741 Union Commerce Bldg., Cleveland.

Materials Problem Under Study

NPN News Bureau

NEW YORK—R. S. Hatch, chairman of the Petroleum Industries' wartime subcommittee for materials, announced this week that problems concerning the availability of supplies and materials for petroleum products and manufacturing operations will be considered jointly with representatives of operators' associations at committee meetings starting Thursday, Sept. 28, in Bradford, Pa.

R. M. Dinges, PAW Dist. 1 director of materials, will be in Bradford on Sept. 27 to discuss with operators at another meeting aspects of the supply situation with particular reference to the new general materials order, P-96-b. Mr. Dinges will also represent PAW at the two-day joint session.

Mr. Hatch will preside at the regular committee sessions which are held every three months.

Peak Passed, Texans Believe, As PAW Cuts Oil Demand

Special to NPN

AUSTIN, Tex. — The first PAW decrease in demand for Texas oil in more than two years has been received by the Texas Railroad Commission for October, and most oil men consider it the beginninig of a trend that will continue from here on as the war with Germany approaches a close.

The certification sent out by Deputy PAW Administrator Davies called for an October production of 2,278,000 barsels daily of all liquid petroleum, 30,000 barrels daily less than for the current month. The monthly requests from Washington have been going up steadily since August, 1942, and reached a peak in September.

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Wisconsin Assn. Golfers Down Chicago Club at Annual Tourney

E. T. O'Malley, Madison, (center) holds thumbs up for Wisconsin. Others, left to right, are R. K. Monroe, Bondnell, Wis.; Jim Harrison, Milwaukee; C. R. Wheeler, Chicago, and W. J. Schroeder, Milwaukee. Photo was snapped at the ninth annual golf tournament of the Wisconsin Petroleum Assn.

Special to NPN

ELKHART LAKE, Wis.—Ninth annual golf tournament and stag party staged at this pleasure resort 60 miles north of Milwaukee on Sept. 14 by Wisconsin Petroleum Assn. was a striking success for Wisconsin oil men golfers who struck out their Chicago Oil Men's Club competitors by three up—9½ to 7½ matched points. It was the first time Wisconsin has marked up such a victory for some time. Both sides took it with a grin, and the Chicago group challenged Wisconsin for another game to be played at Rolling Green Country Club, Chicago, when that club holds its fall tournament on Sept. 27.

The tournament and party, attended by 114 oil men and equipment manufacturers' representatives, gave the group their first collective opportunity to get acquainted with K. C. (Ken) King, new executive secretary of the Wisconsin association, who was complimented by Vice President Harry McGaughey, master of ceremonies at the evening banquet, for his good handling of association work since he took over last spring. President George Buth was incapacitated by hay fever and unable to attend.

Six men from Chicago Oil Men's Club and six from Wisconsin composed the three foursomes that did the official club work on the golf course, but a total of 50 names appeared on the score sheet as all-out players before the day was over.

Some useful prizes were donated by suppliers and equipment houses. Dave Wilson, Pennsylvania Oil Co., Madison, won low gross with a 78 and had his choice, which was a golfer's umbrella. D. R. Forsberg, George Olson Co., Chicago, took second low gross with an 81 for a travel kit prize. Jack O'Connor, O'Connor Gas & Oil Co., Madison, won a zipper bag with an 82 low gross for third prize. High gross prize of golf club covers and a small base ball bat went to George Doublas of Lake Region Oil Co., Antigo, Wis., who tallied 132 strokes. Other golf prizes were won by Bill Franke, Chicago, and Hal Freer, Rockford.

The three top door awards out of 50 given away following the evening stag party and floor show were two $25 war bonds and $25 in cash. Sid Hinrichs, Milwaukee, and P. R. Girard, Chicago, drew the two war bonds and L. W. Martin of Cleveland, O., drew the $25 cash. These three prizes were donated by Great Lakes Petroleum, Wisconsin Oil Refining and Nap-Sol Refineries.

N.C.I.P.A. Council Session Delayed; Phil Williams Ill

Special to NPN

INDIANAPOLIS—National Council of Independent Petroleum Assns. has postponed the meeting scheduled for Sept. 27 at the Sherman Hotel, Chicago, due to the illness of Chairman Phil T. Williams. Council members were so advised by George W. Hofmayer, secretary, on Sept. 13, when Vice Chairman H. L. Thatcher sent word that he would be unable to attend.

Mr. Williams was taken to the Methodist Hospital here on Sept. 5, suffering from a heart ailment. Although he is reported to be progressing well, it is likely to be some time before he is able to resume work, Mr. Hofmayer said.

Virginia Oil Men Meet Oct. 13

RICHMOND, Va.—The Virginia Oil Men's Association will hold its fall convention at Hotel Roanoke, Roanoke, Va., Oct. 13.

Coming Meetings

SEPTEMBER

Empire State Petroleum Assn., Inc., fall meeting, Hotel Commodore, New York City, Sept. 20-21.

Michigan Petroleum Assn., Park Place Hotel, Traverse City, Sept. 26-27.

OCTOBER

American Assn. of Oil Well Drilling Contractors, annual meeting, Ft. Worth, Oct. 3-4.

Society of Automotive Engineers, Mid-Continent Section, Hotel Biltmore, Oklahoma City, Okla., Oct. 6.

Indiana Independent Petroleum Assn., fall meeting, Indianapolis, Oct. 11-12.

I.P.A.A. Director's Meeting, Dallas, Oct. 9-11.

Virginia Oil Men's Association, fall convention, Hotel Roanoke, Roanoke, Virginia, Oct. 13.

National Lubricating Grease Institute, Edgewater Beach Hotel, Chicago, Oct. 23-25.

Ohio Petroleum Marketers Assn., Deshler-Wallick Hotel, Columbus, O., Oct. 25-26.

NOVEMBER

Society of Automotive Engineers Air Transport and Engineering Meeting, Kansas City, Nov. 16-17.

South Dakota Independent Oil Men's Assn., Mitchell, S. D., Nov. 27-28.

Oil Heat Institute Plans Sectional Meetings

NPN News Bureau

CHICAGO—The distribution division of the Oil-Heat Institute of America will hold two sectional meetings and possibly three in October, it was announced by Frank E. Spencer, national chairman.

Fuel oilers of the Midwest will hold their general meeting at the LaSalle Hotel here on Oct. 9, with Dr. Gustav Egloff of Universal Oil Products Co. as one of the speakers.

The Pacific Coast section of the Institute will hold its meeting in Portland, Ore., probably on Oct. 21 with the Oregon Fuel Merchant Assn. as host.

According to Gus Burrell, vice-chairman for the East Coast section, the meeting there will be deferred until after Oct. 10.

MIDWEST COMMENT

(*Continued from p.* 13)

tiquated stations on poor-paying locations and other obvious things, like considering it a privilege instead of a pain to render service to customers.

In connection with station location, a jobber cautioned just the other day that every distributor of products should contact his county highway commissioner and state highway department and follow closely the numerous changes in highways now pending which are certain to kill the value of a lot of service stations.

Large oil companies, so it's rumored, will match the railroads dollar for dollar in lobbying to retain transport trucks. Tank cars are rapidly being freed from east coast service as rail shipments into Dist. 1 are now down to almost 50 per cent of the 1,000,000 b/d high reached about a year ago. Some are still going into west coast service but the few lines in that direction have their limits.

Shortage of tank cars brought about PAW Directive 65, zoning supply and distribution of products in Dist. 2. In the inventory probing process, one question should be—"what would sudden cancellation of that directive mean to me with my supplier all tangled up in trades and exchanges?"

MAY CURB ODT CONTROL

(*Continued from p.* 3)

unusual conditions, mostly of a temporary nature, which require more knowledge of local conditions than of over-all transportation problems.

"The new plan frees the ODT highway department field force from the time-consuming work of handling these changes. ODT transportation specialists and technical workers will have more time to devote to the traffic registration program, organization of joint action plans, maintenance and conservation work, and continuing the orderly movement of farm products."

Detailed arrangements concerning the processing of application forms, the issuance of certificates of war necessity, action on appeals and requests for gasoline from commercial users and the procedures to be followed are now being studied by OPA and ODT officials, announcement said.

Coincident with transfer of a portion of its previous duties to OPA, ODT's highway department regional and district organization will be changed more nearly to coincide with OPA regional and district office locations and boundaries. Regional changes include closing of highway department regional office at Kansas City, reducing number of regional offices from nine to eight, and rearrangement of the areas in all regions except Region 1, administered from New York City. Regional information, district rail and district highway department offices in Kansas City will be continued, however.

Congress Keeps Grip On Oil Facilities In New Surplus Act

NPN News Bureau

WASHINGTON — Congress at NPN press time this week had all but completed action on surplus property legislation which, if finally approved by the President, will give it the final say as to the postwar disposal of government-owned 100-octane plants and the war emergency pipe lines.

Only Senate acceptance of a joint conference report compromising House and Senate differences was needed to send the measure (H. R. 5125) to the White House. The House had approved the report on Monday.

Patents, Processes Affected

The legislation erects an absolute barrier against the sale, postwar, of "aviation gasoline plants and facilities" and "pipelines and facilities used for transporting oil" which cost government $5,000,000 or more until such time as a three-member surplus property board reports to Congress "a plan or program for the care and handling, disposition, and use of the property consistent with the policies and objectives set forth in this act."

If Congress does not like any plan or program it will have 30 days in which to say so. If it has no objection, at the end of the 30 days the board may proceed with the disposal.

Other types of government owned surplus plants are subject to the same provisions, including aluminum, magnesium, synthetic rubber, chemical and iron and steel plants and facilities. Also included are all government war-acquired "patents, processes, techniques, and inventions."

Exempt from the ban, however, are aircraft plants and facilities and aircraft and aircraft parts; shipyards and facilities; transportation facilities, and radio and electrical equipment, Congress providing that the board may dispose of surplus property in these categories outright if it thinks such action will promote the objectives of the act.

These objectives, which are to serve also as a guide for the disposal of aviation gasoline plants and the pipelines, include one calling for disposal of surplus property so as "to give maximum aid in the re-establishment of a peacetime economy of free independent private enterprise, the development of the maximum of independent operators in trade, industry, and agriculture, and to stimulate full employment."

Special safeguards are provided against violation of the antitrust laws in disposing of any surpluses.

• J. R. Sousa, Sousa Oil Company, Peabody, Mass., says: "During the nearly 15 years we have been distributors of Richfield products, our business has expanded both through service stations and commercial accounts. We have always found Richfield products to be up to the highest standard of quality and the Company has always dealt with us fairly and squarely. We have enjoyed the friendship of their executives and sales personnel and from our many years experience, we think the Richfield personnel cannot be matched by any other supplier."

If you're an Independent Distributor in an Eastern State, why not get full details now about a Richfield franchise for after-the-war development?

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SERVING THE EASTERN SEABOARD FROM MAINE THROUGH NORTH CAROLINA

(*Continued from p. 40*)

will have been only paper deficiencies, and the situation with respect to inventories generally, will have improved in comparison with that indicated herein.

(3) Although actual figures on military requirements after the close of the war in Europe are not now available, the committee is of the opinion that a substantial reduction in military takings of gasoline will result and that somewhat more gasoline may be available to ease present restrictions.

(4) All means of transportation have been utilized to the maximum. Tank car movement to District V has increased materially. Physical condition of tank trucks and the heavy duty truck tire situation are placing additional pressure on tank cars. It is of extreme importance that tank cars be operated at the highest possible level of efficiency.

(5) Tanker requirements for District I movement from District III and foreign sources to points north of Hatteras reach levels that are considerably higher than those actually established during July and the first part of August. Since then, however, the tanker situation has eased materially.

(6) In California a current directive maximizes the production of 91 octane gasoline but takings of that grade, from that area, are on the decline. If that directive remains in force, and if takings continue to decline as anticipated, gasoline stocks will pile up to the disadvantage of kerosine and distillate fuel oils; the present outlook for which is one of depleted inventories. Prompt and adequate granting of cancellations under the directive referred to, allowing a switch in yields from gasoline to kerosine and distillate, would correct the trend of inventories of these two products.

(7) Stocks of heavy fuel oil, particularly in District I, are currently at high levels and have threatened interference with war product output in that district and also in District II. Under the levels of demand considered in this report, that situation should be only temporary, but a sudden cessation of military activities in Europe and a curtailment of industrial activity, particularly a reduction in the high rate of steel manufacture would aggravate the situation considerably. This is a situation which will require close and constant scrutiny, with increasing liberality in granting reconversions from coal to heavy fuel oil being desirable.

(8) Kerosine and distillate fuel oil supply and demand and inventory conditions outlined herein reflect the recent findings of the District I Fuel Oil Sub-Committee with respect to the type of No. 2 fuel oil that may be available this winter to those users equipped with vaporizing or pot-type burners. In other words, the estimated demand for No. 2 fuel oil has been reduced, and kerosine demand increased, to cover the winter seasonal use by these burners of a 40% kerosine-60% No. 2 blend.

(9) During its deliberations in connection with this report, the committee attempted to evaluate the effect of a sudden termination of the European phase of the war but found itself without the statistical information necessary for definite figure conclusions. It is advised that the PAW is attempting to obtain from the military some more definite indication of the changes in demand which would accompany the end of hostilities in Europe. A revision of this report would immediately be necessary in that event. The committee stands ready to assume the task of making that revision but wishes to point out that complete details on the changes in military demands will have to be made available to it before such a study can be attempted.

° ° °

As usual, the committee will continue to evaluate the supply and demand and inventory situation and keep the Council informed of any unusual developments. Unless sudden changes with respect to military activities intervene and make necessary a revision of the Sub-Committee's current study before then, the next long-term report will be prepared during the month of November for presentation to the Council at its December meeting.

Plan To Build Synthetic Oil Plant at Hugoton

Special to NPN

WICHITA—Plans to build a Fischer-Tropsch plant to synthesize gasoline from natural gas in the Hugoton field, Oklahoma-Kansas have been announced here by Fred C. Koch, consulting engineer and partner in Winkler-Koch Engineering Co. As an initial step in the proposed development, Mr. Koch and his associates have acquired leases on approximately 150,000 acres of proven and semi-proven land in the Hugoton field.

At present, Mr. Koch said, detailed plans for the synthetic oil plant "are a long way from started" and no completed arrangements for the entire project have been made. However, it is planned to start the drilling of wells to supply the plant in the near future.

In discussing the economics of producing synthetic gasoline, Koch declared there must have been marked improvements in the German process, unreported during the current blackout. Under last reported procedure, he admitted gasoline could not be produced in this country to compete with present 6c housebrand fuel, while paying perhaps $5 per M for the raw natural gas. However, he said that research already completed in this country has shown "marked improvements" possible in the process, with research still continuing. Also, German improvements likely will become available with the fall of Hitler, he added, pointing out the possibility of manufacturing chemicals as an attractive by-product should not be ignored.

The Fischer-Tropsch synthesis has been long used in Germany to supply both gasoline and lubricating oils for the Nazi war-machine, in addition to that secured from natural sources. It is a catalytic process, using as catalysts, cobalt, nickel, certain other metals in Periodic Group VIII and iron, singly or in combination and with or without "promoters". While there is divergence of authoritative opinion on the mechanism of the reaction, briefly it results in hydrogenation of carbon monoxide to form methane under one set of conditions or, under other conditions, higher molecular weight paraffins, olefins, cycloparaffins, and other materials including such complicated hydrocarbons as lubricating oils, paraffin wax, etc. The Germans get their carbon monoxide and hydrogen by reacting coke (from coal) with superheated steam according to the reaction: C (coke $+H_2O \longrightarrow CO+H_2$).

Methane will work equally well as starting material, but in this case the methane is first heated with steam according to the reaction: CH_4 (natural gas) $+H_2O \longrightarrow CO+3H_2$. Another way of securing this double decomposition is by incomplete combustion of methane with air in which the reaction may be represented as: $2CH_4+O_2$ (air) $\longrightarrow 2CO+4H_2$. The carbon monoxide, under the influence of the catalyst, is hydrogenated and polymerized through the entire range of petroleum products.

Other materials, such as alcohols, ethers, and aldehydes also may be obtained through the mechanism of varying reaction pressure, catalyst temperature, or combination of all three to produce simpler compounds direct and for raw materials with which to make still more complicated products.

Associated with Mr. Koch in the venture are P. C. Keith, New York consulting engineer who now is investigating the process through the pilot-plant stage, O. H. Ingram of St. Paul, Minn. and E. G. Bradley of Wichita. The Champlin Refining Co. of Enid is reported as interested and "has tentatively agreed to go into the project."

Canol Production Increased

Special to NPN

OTTAWA—Rising production on the Canol project by Imperial Oil, Ltd. is reflected in the petroleum production figures of the Northwest Territories for the first half of 1944 which totaled 569,784 barrels as against 89,929 barrels in the first half of 1943. Total Canadian production in the half year was 5,035,837 barrels against 5,037,870 barrels in the corresponding period of 1943. Alberta's output showed a reduction.

11 New California Wells In

NPN News Bureau

LOS ANGELES—Standard of California last week brought in 11 wells, including a Buena Vista exploratory well and a gas test in Kings County. Drilling operations also were started on 12 new wells.

Market Reports

MIDCONTINENT — Refiner quoting high of 6c on 70-74 oct. gasoline in Central West Texas (prices to truck transports) market reported lowering posting to 5.875c. Other refiner quoting in market quoted 5.875c also, making flat price for the product. No other price changes reported.

Although gasoline demand continues to take refiners' make, several report they have been able to ease proration restrictions to regular customers on house-brand. Agricultural demand plus having to supply replacement gasoline to other refiners is causing some to be very hard pressed. One complained of having to cut off own customers in order to furnish replacement gasoline, while refiner supplied sought new business among supplier's customers.

Asphalt demand continues good and probably will until latter part of October, refiners say. Lack of tires, manpower and repair parts causing delays in truck transportation continues to be a major problem in Midcontinent.

Four cars Grade 26-70 natural gasoline reported sold at 4.75c f.o.b. Group 3, and two cars reported sold at 4.375c f.o.b. Breckenridge.

° ° °

CALIFORNIA—Markets remained steady last week with no price changes reported. Demands for heating oils increased as "cat cracking" and synthetic rubber plants continued to step up operations. Gasoline sales slumped, apparently because new "A" coupons do not become valid until Sept. 21. Service stations report "plenty of gas."

° ° °

GULF COAST—One refiner in this area withdrew his quotation of 3.75c on No. 2 fuel oil in cargoes, domestic and export in all Gulf ports. Price range remains unchanged. Bunker "C" fuel oil piled up in storages due to mild weather, reports one refiner. Kerosine supply fair but demand for gasoline continues without let-up. All refined products held pending demands of military.

° ° °

ATLANTIC COAST—Eight East Coast refiners reduced ceilings on gasoline, kerosine and No. 2 fuel oil in compliance with OPA Amdt. 17 to MPR making the following ranges on gasoline now 8.175-8.575c at Wilmington; Jacksonville, 7.845-8.15c ; Tampa, 7.845-7.85c; Miami, 7.845c; Mobile, 6.745c and 8.575c at Norfolk.

Kerosine now 6.75c at Wilmington; 6.9c at Charleston and 6.55c at Tampa, Savannah, Jacksonville and Miami. No. 2 fuel oil now 6.4c at Charleston, Wilmington; 5.75c at Jacksonville, Tampa and Miami. Other prices fell within existing ranges.

° ° °

PENNSYLVANIA — Western Penna. refiners continued to adjust their prices according to Amdt. 17 to MPR 88. These new prices affected ranges as follows: Bradford-Warren district, "Q" gasoline, 7.625-8.225c; 45 w.w. kerosine and No. 1 fuel, 6.55-7.55c; No. 2 fuel, 6.125-7.125c; No. 3 fuel, 6.25-7.25c. No changes were reported in other districts.

Refined products were reported tight throughout the week with no let-up in demand for gasoline or fuel oil. Inquiries were heavy for neutrals but scarcity of materials prevented supplying more than regular demands.

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MIDWEST — Demand for gasoline, now absorbing all available quantities, will ease as farm season slacks off, permitting refiners and marketers to relax stringent allocation, they say. Many refiners and marketers now buying everything available in inter-refinery markets to supplement their own production and ease strain of heavy gasoline demand.

Refiners who predicted dire shortage of light fuel oils for coming heating season are now looking forward to considerably improved storage position because of kerosine storages now building up. Majority of refiners and marketers now report being able to buy all the kerosine they need to supplement their own production. No. 1 and No. 2 fuel oils remain tight, however, since few refiners are producing much of either product. Residual stocks continue to pile up among midwestern refiners. Shipments of the product to Dist. 1 are picking up, however.

CRUDE PRICES

Since changes in crude oil prices are so few, the two pages of crude oil price tables hereafter will be printed only when there are sufficient changes in prices to warrant.

In the meantime a record is being kept in the Cleveland office of NPN and OILGRAM from which the publishers will be glad to make proofs, or letters or affidavits as to what the prices are, and without charge to regular subscribers. Changes in crude oil prices will be specially noted in this market section when made.

Crude Price Changes

No price changes reported during week ending Sept. 13.

For latest table of crude prices published, see NPN, Aug. 23, *pages* 49, 50 *and* 46.

Summary of Daily Gasoline Prices (September 11 to September 18)

U. S. Motor (ASTM octane)	Monday Sept. 18	Friday Sept. 15	Thursday Sept. 14	Wednesday Sept. 13	Tuesday Sept. 12
76 octane Ethyl:					
Oklahoma	6.75	6.75	6.75	6.75	6.75
Mid-Western (Group 3 basis)	6.75	6.75	6.75	6.75	6.75 – 7.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7	7	7	7	7
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7 (2)	7 (2)	7 (2)	7 (2)	7 (2)
70-74 octane:					
Oklahoma	5.875	5.875	5.875	5.875	5.875
Mid-Western (Group 3 basis)	5.875	5.875	5.875	5.875	5.875
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.875	5.875	5.875	5.875	5.875
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.875	5.875	5.875	5.875	5.875
63-66 octane:					
Oklahoma	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)
Mid-Western (Group 3 basis)	5.625 (2)	5.625 (2)	5.625 (2)	5.625 (2)	5.625 (2)
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)	5.625 (1)
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)	5.75 (1)
60 octane & below:					
Oklahoma	5.25	5.25	5.25	5.25	5.25
Mid-Western (Group 3 basis)	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25	5.2 – 5.25
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25	5.25	5.25	5.25	5.25
Motor Gasoline, 70-74 oct.					
New York harbor	9.075	9.075	9.075	9.075	9.075
New York harbor, barges	8.975	8.975	8.975	8.975	8.975
Philadelphia district	9.075	9.075	9.075	9.075	9.075
Baltimore district	8.825	8.825	8.825	8.825	8.825– 8.95
Motor Gasoline:					
Western Penna. Bradford-Warren:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.625– 8.225	7.625– 8.225	7.625– 8.225	7.625– 8.225	7.625– 8.225
Western Penna. Other Districts:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.725– 8	7.725– 8	7.725– 8	7.725– 8	7.725– 8

Note: To conform with Article IV of MPR 88 as amended August 15 we are substituting 70-74 oct. ASTM for the old 72-74 oct. ASTM. We continue to include in this group, Housebrand quotations. 70-74 oct. prices effective Aug. 15.

Refinery Operations

(American Petroleum Institute figures in thousands of barrels of 42 gal. each. Figures include reported totals plus estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended Sept. 9	Daily Potential Refining Capacity Week Ended Sept. 2	Per Cent of Refining Capacity Reporting Week Ended Sept. 9	Per Cent of Refining Capacity Reporting Week Ended Sept. 2	Daily Average Crude Runs to Stills Week Ended Sept. 9	Daily Average Crude Runs to Stills Week Ended Sept. 2	Per Cent of Reporting Capacity Operated Week Ended Sept. 9	Per Cent of Reporting Capacity Operated Week Ended Sept. 2
Combined°°	2,518	2,518	90.3	90.3	2,457	2,491	97.6	98.9
Appalachian (Dist. No. 1)	130	130	83.9	83.9	98	101	75.4	77.7
Appalachian (Dist. No. 2)	47	47	87.2	87.2	60	64	127.7	136.2
Ind., Ill., Ky.	824	824	85.2	85.2	738	710	89.6	86.2
Okla., Kans., Mo.	418	418	80.2	80.2	371	370	88.8	88.5
Rocky Mt. (Dist. No. 3)	13	13	17.0	17.0	12	11	92.3	84.6
Rocky Mt. (Dist. No. 4)	141	141	58.3	58.3	104	86	73.8	61.0
California	817	817	89.9	89.9	744	759	91.1	92.9
Total U.S.—B. of M. Basis	4,908	4,908	87.2	87.2	4,584	4,592	93.4	93.6
U.S.—B. of M. Basis Sept. 11, 1943					4,225			

Districts	Gasoline Production at Refineries inc. Natural Blended Week Ended Sept. 9	Gasoline Production at Refineries inc. Natural Blended Week Ended Sept. 2	Stocks of Finished and Unfinished Gasoline Week Ended Sept. 9	Stocks of Finished and Unfinished Gasoline Week Ended Sept. 2	Total Stocks Gas Oil & Distillates Week Ended Sept. 9	Total Stocks Gas Oil & Distillates Week Ended Sept. 2	Total Stocks Residual Fuel Oil Week Ended Sept. 9	Total Stocks Residual Fuel Oil Week Ended Sept. 2
Combined°°	7,151	7,340	36,472	36,609	23,124	22,631	19,852	19,384
Appalachian (Dist. No. 1)	287	299	2,162	2,224	539	471	288	277
Appalachian (Dist. No. 2)	184	206	1,479	1,403	234	231	212	217
Ind., Ill., Ky.	2,718	2,583	17,141	17,395	6,249	5,977	4,021	4,161
Okla., Kans., Mo.	1,357	1,441	6,697	6,605	1,971	1,920	1,501	1,452
Rocky Mt. (Dist. No. 3)	37	34	61	56	14	9	33	30
Rocky Mt. (Dist. No. 4)	364	324	1,812	1,832	376	359	643	635
California	1,995	2,038	13,752	13,797	10,546	10,366	34,185	33,720
Total U.S.—B. of M. Basis	14,093	14,265	°79,576	79,921	43,053	41,964	60,735	59,876
U.S.—B. of M. Basis Sept. 11, 1943	12,619		71,018		38,051		66,743	

°Finished 66,606,000 bbls.; Unfinished 12,970,000 bbls.
°°Includes East Coast, Inland Texas, Texas Gulf, Louisiana Gulf and North Louisiana-Arkansas districts.

U. S. Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Barrels (Daily Average) Sept. 9	Barrels (Daily Average) Sept. 2
Oklahoma	339,550	338,200
Kansas	254,300	266,250
Nebraska	900	900
Texas	2,156,050	2,108,600
Louisiana	362,150	362,750
Arkansas	81,150	80,350
Mississippi	46,800	46,400
Alabama	300	300
Florida	50	50
Illinois	208,700	200,100
Indiana	14,950	13,250
Eastern (Ill., Ind. & Ky. excluded)	65,000	72,500
Kentucky	26,500	25,200
Michigan	49,500	51,400
Wyoming	89,100	92,300
Montana	19,600	19,600
Colorado	8,650	8,950
New Mexico	105,950	106,050
California	860,200	864,500
Total, U. S.	4,689,400	4,657,650

Crude Oil Stocks

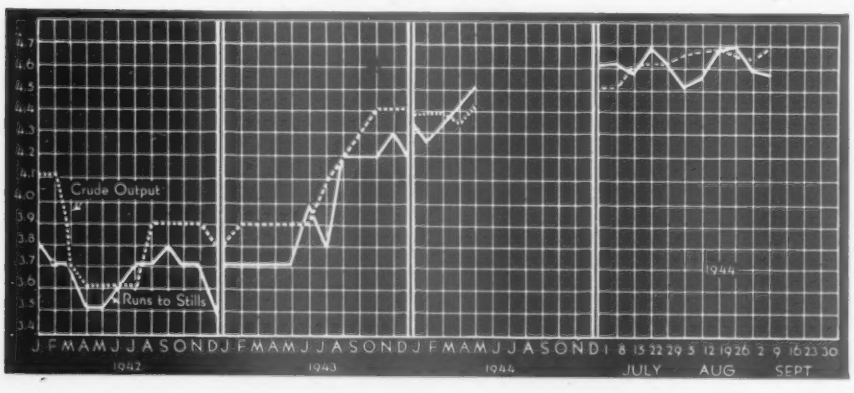
(Bureau of Mines Figures in thousands of bbls.)

STOCKS OF CRUDE PETROLEUM
SEPTEMBER 2 AND 9, 1944
(Thousands of barrels)

Grade or Origin	Sept. 2	Sept. 9	Change from Sept. 2
Penna. Grade	2,469	2,353	—116
Other Appalachian	1,576	1,504	— 72
Lima-Michigan	1,037	1,049	+ 12
Illinois-Indiana	15,497	14,609	—888
Arkansas	2,760	2,792	+ 32
Kansas	8,462	8,348	—114
Louisiana:	12,963	13,006	+ 43
Northern	3,186	3,131	— 55
Gulf Coast	9,777	9,875	+ 98
Mississippi	957	893	— 64
New Mexico	6,267	6,279	+ 12
Oklahoma	30,823	30,308	—515
Texas:	108,999	108,339	—660
East Texas	19,718	20,117	+399
West Texas	32,485	31,275	—1,210
Gulf Texas	30,394	30,123	—271
Other Texas	26,402	26,824	+422
Panhandle	6,019	6,211	+192
North	6,176	6,032	—144
South	5,513	6,120	+607
Other	8,694	8,461	—233
Rocky Mountain	8,036	7,792	—244
California	21,522	21,328	—194
Foreign	2,114	2,023	— 91
Total gasoline-bearing in U. S.	223,482	220,623	—2,859
Heavy in California	6,190	6,191	+ 1

Crude Production & Runs to Stills

(Millions of Barrels)



N.P.N. Gasoline Index

	Dealer T.W. Cents Per Gal.	Tank Car Cents Per Gal.
Sept. 11	9.17	5.50
Month ago	10.51	5.56
Year ago	10.43	6.92

Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston and Gulf Coast.

Pennsylvania Crude Runs

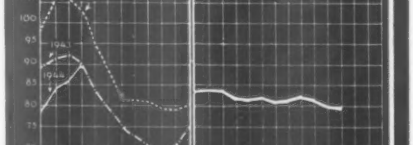
(Compiled by National Petroleum Assn. from reports of all companies refining Pennsylvania crude. Figures in bbls.)

DAILY AVERAGE

Week Ended Sept. 9, 1944	Week Ended Sept. 2, 1944	Week Ended Sept. 11, 1943
61,273	71,021	72,743

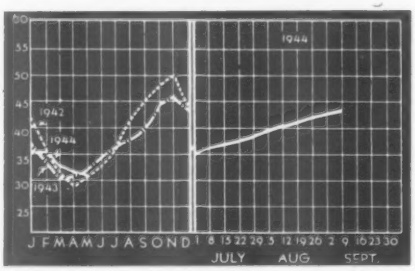
Gasoline Stocks

(Millions of Barrels)



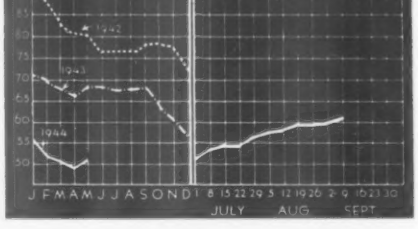
Gas Oil & Distillate Stocks

(Millions of Barrels)



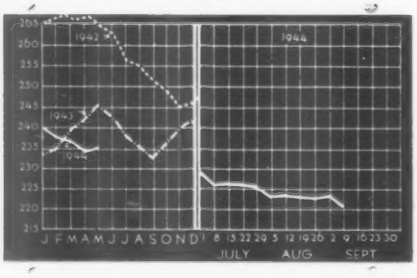
Residual Fuel Oil Stocks

(Millions of Barrels)



Crude Oil Stocks

(Millions of Barrels)



OIL PRICE SECTION

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At Refineries and Terminals and by Tank Wagon

Prices herewith are reproduced from Platt's *OILGRAM* Daily Oil Price Service, associated with National Petroleum News, whose representatives in all *NPN-OILGRAM* offices devote their time exclusively to reporting oil industry prices everywhere.

Prices shown are actual sales prices, or quotations meaning sellers' general offers or posted prices; for current sales and shipment; for the business day or period stated; except Tank Wagon prices, prices are for bulk lots such as tank car and motor transport; barge or tanker cargo lot prices are identified; FOB refineries or terminals; in cents per gal. except where shown in bbls. of 42 gals.; ex all fees and taxes; for erude oil and its products lawfully produced and transported; reported as received by *OILGRAM* and National Petroleum News but not guaranteed; for subscribers' private use only and not for resale or distribution or publication. For further details of price conditions apply to any *NPN-OILGRAM* office or see back of any *OILGRAM* Price Service invoice.

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Refinery Prices

Gasoline —U. S. Motor (A S T M) except where otherwise specified.

Prices in Effect	Sept. 18	Sept. 11
OKLAHOMA		
76 oct. Ethyl...	6.75	6.75
70-74 oct.....	5.875	5.875
63-66 oct.....	5.625 (1)	5.625 (1)
60 oct. & below.	5.25	5.25
MID-WESTERN (Group 3 basis)		
76 oct. Ethyl...	6.75	6.75
70-74 oct.....	5.875	5.875
63-66 oct.....	5.625 (2)	5.625 (2)
60 oct. & below.	5.2 – 5.25	5.2 – 5.25
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
76 oct. Ethyl...	7	7
70-74 oct.....	5.875	5.875
63-66 oct.....	5.625 (1)	5.625 (1)
60 oct. & below.	5.2 – 5.25	5.2 – 5.25
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
76 oct. Ethyl...	7 (2)	7 (2)
70-74 oct.....	5.875	5.875
63-66 oct.....	5.75 (1)	5.75 (1)
60 oct. & below.	5.25	5.25
CENT. W. TEX. (Prices to truck transports)		
76 oct.....	7 (2)	7 (2)
70-74 oct.....	5.875 (2)	5.875 (2)
67-69 oct.....	....	....
62 oct. & below.	5.25 (2)	5.25 (2)
KANSAS (For Kansas destinations only)		
76 oct. Ethyl...	7.2 – 7.3	7.2 – 7.3
70-74 oct.....	6.2	6.2
63-66 oct.....	5.9 (2)	5.9 (2)
60 oct. & below.	5.5	5.5
ARK. (For shipment to Ark. & La.)		
76 oct. Ethyl...	7 (1)	7 (1)
70-74 oct.....	5.875 (1)	5.875 (1)
62 oct.	....	....
60 oct. & below, unleaded.....	5.25 (1)	5.25 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
"Q" Gasoline Min. 70 Oct. (ASTM)	7.625-8.225(a)	7.625-8.225(a)
Other districts:		
"Q" Gasoline, Min 70 Oct. (ASTM)	7.725- 8	7.725- 8

(a) Highs and lows for Schedule D area, in MPR 88 and outside Schedule D area, respectively.

Prices in Effect	Sept. 18	Sept. 11
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
U.S. Motor: (Oct. ASTM):		
70-74 oct.....	7.875- 8.375	7.875- 8.375
67-69 oct.....	....	....
Str. run gasoline, excluding Detroit shpt.....	6	6
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances).		
70-74 oct.....	8.25	8.25
CALIFORNIA U.S. Motor:		
76 oct. (Ethyl)....	7.5 – 8.75	7.5 – 8.75
70-74 oct.....	6.5 – 7.75	6.5 – 7.75
65 oct. & below (3rd grade).....	6.5 – 6.75	6.5 – 6.75

Kerosine, & Gas Fuel Oils

OKLAHOMA		
41-43 grav. w.w...	4.375	4.375
42-44 grav. w.w...	4.5	4.5
Range oil.....	4	4
No. 1 p.w.....	3.875	3.875
No. 1 straw.....	....	....
No. 2 straw.....	3.625	3.625
No. 3 fuel.....	3.5 (2)	3.5 (2)
No. 6 fuel.....	$0.97	$0.97 (1)
U. G. I. Gas Oil..	....	....
14-16 fuel.....	$0.97 (2)	$0.97 (2)
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w...	4.375	4.375
42-44 grav. w.w...	4.5	4.5
Range Oil.....	4 –4.1 (2)	4 –4.1 (2)
No. 1 p.w.....	3.875	3.875
No. 2 straw.....	3.625	3.625
No. 3.....	....	....
No. 5.....	....	....
No. 6.....	$0.97 (1)	$0.97 (1)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w...	4.375	4.375
42-44 grav. w.w...	4.5 (1)	4.5 (1)
No. 1 p.w.....	3.875 (1)	3.875 (1)
No. 6 fuel.....	$0.97 (2)	$0.97 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
42-44 grav. w.w...	4.5 (1)	4.5 (1)
KANSAS (For Kansas destinations only).		
41-43 grav. w.w...	No Price	No Price
42-44 grav. w.w...	4.7	4.7
No. 1 p.w.....	4.1	4.1
No. 6 fuel.....	$1.02	$1.02
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w...	....	....
42-44 w.w. kero...	4.5 (1)	4.5 (1)
No. 1.....	....	....
No. 2.....	3.625 (1)	3.625 (1)
No. 3 fuel.....	3.5 (1)	3.5 (1)
Tractor fuel, for shpt. to Ark. points only.....	5.125 (1)	5.125 (1)
Diesel fuel 52 & below.....	4 (1)	4 (1)
Diesel fuel 58 & above.....	4.25 (1)	4.25 (1)
WESTERN PENNA. *Bradford-Warren*:		
45 grav. w.w.....	6.55 – 7.55	6.55 – 7.55
46 grav. w.w.....	6.675 (1)	6.675 (1)
No. 1 fuel.....	6.55-7.55(2&b)	6.55-7.55(2&b)
No. 2 " ...	6.125-7.125(2&b)	6.125-7.125(2&b)
No. 3 "	6.25-7.25(1&b)	6.25-7.25(1&b)
36-40 gravity.....	6.625-6.75(2)	6.625-6.75(2)

(b) Highs and lows for Schedule D area, in MPR 88 and outside Schedule D area, respectively.

Other districts:		
45 grav. w.w.....	7.25 – 7.425	7.25 – 7.425
46 grav. w.w.....	7.25 – 7.425	7.25 – 7.425
47 grav. w.w.....	7.375- 7.775	7.375- 7.775
No. 1 fuel.....	6.875- 7.175	6.875- 7.175
No. 2 "	6.75 – 7.175	6.75 – 7.125
No. 3 "	6.75 – 7.175	6.75 – 7.175
36-40 grav. Pittsburgh dist. prices excluded.....	6.625- 7.175	6.625- 7.175
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
47-49 gravity w.w.	5.8 – 6	5.8 – 6
P.W. Distillate...	5.5	5.5
No. 3 gas oil, Straw	5	5
U.G.I. gas oil.....	4.5 (2)	4.5 (2)
Fuel Oils (*Vis. at* 100).		
300-500 Vis.....	....	....
100-300 Vis.....	4.5	4.5
OHIO (S. O. quotations for statewide delivery) Kerosine.....	7	7

Prices in Effect	Sept. 18	Sept. 11
CALIFORNIA		
40-43 grav. w.w...	5 – 7	5 – 7
San Joaquin Valley:		
Heavy fuel.....	$1.10 (2)	$1.10 (2)
Light fuel.....	$1.20 (2)	$1.20 (2)
Diesel fuel.....	4 (2)	4 (2)
Stove dist.....	5 (2)	5 (2)
Los Angeles:		
Heavy fuel.....	$1.10 (2)	$1.10 (2)
Light fuel.....	$1.20 (2)	$1.20 (2)
Diesel fuel.....	4 (2)	4 (2)
Stove dist.....	5 (1)	5 (1)
San Francisco:		
Heavy fuel.....	$1.15 (1)	$1.15 (1)
Light fuel.....	$1.25 (1)	$1.25 (1)
Diesel fuel.....	4.5 (1)	4.5 (1)
Stove dist.....	5.5 (1)	5.5 (1)

NOTE: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

Prices in Effect	Sept. 18	Sept. 11
WESTERN PENNA.		
Prices are for sales made, or offers reliably reported, to jobbers & compounders only.		
Viscous Neutrals—*No. 3 col. Vis. at* 70°*F.*		
200 Vis. (180 at 100°) 420-425 fl.		
0 p.t.....	38 (1)	38 (1)
10 p.t.....	37 (1)	37 (1)
15 p.t.....	36 (1)	36 (1)
25 p.t.....	28-33	28-33
150 Vis. (143 at 100°) 400-405 fl.		
0 p.t.....	36 (1)	36 (1)
10 p.t.....	35 (1)	35 (1)
15 p.t.....	34 (1)	34 (1)
25 p.t.....	26-31	26-31

NOTE: Limited quantity neutrals available regular trade.

Cylinder Stocks:

Brl. stk., 145-155 *vis. at* 210°, 540-550 fl., *No. 8 col.*		
10 p.t.....	30.5 (1)	30.5 (1)
15 p.t.....	29.5 (1)	29.5 (1)
25 p.t.....	25	25
600 S.R. filterable	15	15
650 S.R.....	15.5	15.5
600 fl.....	16	16
630 fl.....	17	17

MID-CONTINENT (F. o. b. Tulsa)

Neutral Oils (*Vis. at* 100° *F.* 0 *to* 10 *P.P.*)

Pale Oils: Vis. Color		
60-85—No. 2....	7.5	7.5
86-110—No. 2...	7.5 – 8.5	7.5 – 8.5
150—No. 3.....	11 –11.5	11 –11.5
180—No. 3.....	11.5 –15	11.5–15
200—No. 3.....	12 –15	12 –15
250—No. 3.....	14 –16.5	14 –16.5
280—No. 3.....	15 –17	15 –17
300—No. 3.....	16 –18	16 –18
Red Oils:		
180—No. 5.....	11.5 (1)	11.5 (1)
200—No. 5.....	12 (1)	12 (1)
280—No. 5.....	No Price	No Price
300—No. 5.....	16-17.5(2)	16-17.5 (2)
Bright Stock—*Vis. at* 210°		
200 Vis. D.....	27 (1)	27 (1)
150-160 Vis. D: 0 to 10 p.p.....	23	23
10 to 25 p.p.....	22.5-23	22.5-23
25 to 40 p.p.....	23 (1)	23 (1)
150-160 Vis. E....	22 (1)	22 (1)
120 Vis. D: 0 to 10 p.p.....	22 (2)	22 (2)
600 S.R. Dark Green.....	8.5 (1)	8.5 (1)
600 S.R. Olive Green.....	10-11 (2)	10-11 (2)
631 S.R.....	....	....
Black Oil.....	....	....

NOTE: Discounts of 0.5c to 1c on bright stock and 0.5c to 2c allowed for neutrals, 10 car lots, and to "meet competition." Brokers offering at greater discounts.

SOUTH TEXAS (Neutral Oils)

Pale Oils (*Vis. at* 100°*F.*) Vis. Color		
100 No. 1½-2½.	6.5	6.5
200 No. 2-3.....	8.75	8.75
300 No. 2-3.....	9.25	9.25
500 No. 2½-3½.	10	10
750 No. 3-4.....	10.25	10.25
1200 No. 3-4.....	10.375	10.375
2000 No. 4.....	10.5	10.5

(Continued on next page)

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market lends.

Refinery Prices (Continued)

Prices in Effect	Sept. 18	Sept. 11
Red Oils:		
100 No. 5-6	6.5 (2)	6.5 (2)
200 No. 5-6	8.75	8.75
300 No. 5-6	9.25	9.25
500 No. 5-6	10	10
750 No. 5-6	10.25	10.25
1200 No. 5-6	10.375	10.375
2000 No. 5-6	10.5	10.5

CHICAGO (From Mid-Continent p.l. crude.) Neutral oils *vis. at* 100° *F. to* 10 *p.p.*

Pale Oils Vis. Color		
60-85—No. 2	9 (1)	9 (1)
86-110—No. 2	9.25 (1)	9.25 (1)
150—No. 3	12.5 (1)	12.5 (1)
180—No. 3	13 (1)	13 (1)
200—No. 3	13 (1)	13 (1)
250—No. 3	14 (1)	14 (1)
Red Oils:		
180—No. 5	13 (1)	13 (1)
200—No. 5	13 (1)	13 (1)
250—No. 5	14 (1)	14 (1)
280—No. 5	15 (1)	15 (1)
300—No. 5	15.5 (1)	15.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined (*Viscosity at* 210°)		
140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)
Bright stocks, 160 *vis. at* 210 *No.* 8 *color:*		
0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.

FOB GROUP 3		
Grade 26-70	4.75 (Sales)	4.75 (Sales)
FOB BRECKENRIDGE		
Grade 26-70	4.375 (Quotes)	4.375 (Quotes)

CALIFORNIA (FOB plants in Los Angeles basin)

21 pound vapor pressure for blending	4.75 – 5.375	4.75 – 5.375

Naphtha and Solvent

(*FOB Group* 3)

Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V.M.&P. naphtha	7.1 – 7.125	7.1 – 7.125
Mineral spirits	6.1 – 6.125	6.1 – 6.125
Rubber solvent	7.1 – 7.125	7.1 – 7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	7.875– 8.625	7.875– 8.625
WESTERN PENNA.		
Bradford-Warren District:		
Stoddard Solvent	7.5 (1)	7.5 (1)
Other Districts:		
Untreated naphtha	7 –7.25 (2)	7 –7.25 (2)
Stoddard solvent	7.25 –7.5 (2)	7.25 –7.5 (2)

OHIO (S. O. quotations for statewide delivery): V.M.&P. naphtha. D.C. naphtha, Varnolene &

Sohio solvent	10	10
Rubber solvent	9	9

Wax

WESTERN PENNA. (Bbls. C.L.)

White Crude Scale:		
122-124 A.m.p.	4.25 (2)	4.25 (2)
124-126 A.m.p.	4.25	4.25

OKLAHOMA (C.L. FOB Refinery)

Semi-refined:		
128 AMP min., white, 50 kilo bags	No Price	No Price
132-134 AMP, bbls.	5.25 (1)	5.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose, 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:		
122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)

Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.25	5.375– 6.25
Cream White	4.375– 5.5	4.375– 5.5
Light Amber	3.375– 4	3.375– 4
Amber	3.125– 3.75	3.125– 3.75
Red	3 – 3.5	3 – 3.5

Tank Wagon Prices

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect Sept.* 18, 1944 *as posted by principal marketing companies at their headquarters offices, but subject to later correction*

S. O. N. J.

Esso (*Regular Grade*)	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J.	10.2	10.7	4.5	10
*Newark, N. J.	10.2	10.7	4.5	10
Annapolis, Md.	10.55	11.05	5.5	....
Baltimore, Md.	9.95	10.45	5.5	10.8
Cumberland, Md.	11.35	11.85	5.5	12.3
Washington, D. C.	10.2	10.7	4.5	11.3
Danville, Va.	11.65	12.15	6.5	12.55
Norfolk, Va.	10.45	10.95	6.5	12.3
Petersburg, Va.	10.75	11.25	6.5	13.3
Richmond, Va.	10.75	11.25	6.5	13.3
Roanoke, Va.	11.95	12.45	6.5	12.8
Charleston, W. Va.	12.25	12.75	6.5	13.6
Parkersburg, W. Va.	11.55	12.05	6.5	13.3
Wheeling, W. Va.	11.55	12.05	6.5	13.9
Charlotte, N. C.	12.1	12.6	7.5	11.6
Hickory, N. C.	12.65	13.15	7.5	12.6
Mt. Airy, N. C.	12.5	13.0	7.5	11.8
Raleigh, N. C.	11.85	12.35	7.5	12.6
Salisbury, N. C.	12.15	12.65	7.5	13.0
Charleston, S. C.	10.95	11.45	7.5	....
Columbia, S. C.	11.8	12.3	7.5	....
Spartanburg, S. C.	12.5	13.0	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J.	13	14.5
Baltimore, Md.	15.5	....
Washington, D. C.	15.5	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J.	10	9	9
Newark	10	9	9
Annapolis, Md.	..	..	..
Baltimore	9.8	9	9
Washington, D. C.	10.3	9.4	9.4
Norfolk, Va	10	8.8	8.8
Petersburg	10.3	9	..
Richmond	10.3	9	9
Charlotte, N. C.	10.6	10.4	..
Hickory, N. C.	..	10	..
Raleigh	11.6	10.1	..
Charleston, S. C.	..	9	..
Columbia	..	10	..
Spartanburg	..	10.8	..

*Effective Aug. 5, '42 minimum retail resale price of 14.2c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphtha—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Notice

These prices include inspection fees on both gasoline and kerosine unless otherwise specified per gallon as follows:

Ala. 1/40c on gasoline; Ark. 1/20c; Fl. 1/8c; Ill. 3/100c; Ind. 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kans. 1/50c; La. 1/32c; Minn. 7/200c; Miss. 1/50c; Neb. 3/100c; Nev. 1/20c; N. C. 1/4c; N. Da. 1/20c; Okla. 2/25c; S. Car. 1/8c; S. Da. 1/20c; Tenn. 2/5c; and Wisc. 3/100c.

Kerosine inspection fees only: Ala. 1/2c; Fla. 1/8c; Iowa 3/50c; Mich. 1/5c per gal.

CONT'L OIL

	Conoco Bronz-z-z †Tank	De-mand (*3rd Grade*) Wagon	Gasoline Taxes	Kerosine T.W.
Denver, Col.	10	9	5.5	10
Grand Junc., Col.	12.5	11.5	5.5	12.5
Pueblo, Col.	9.5	8.5	5.5	9.5
Casper, Wyo.	11.5	10.5	5.5	12
Cheyenne, Wyo.	10	9	5.5	9
Billings, Mont.	12	11	6.5	12.5
Butte, Mont.	11.5	10.5	6.5	13.5
Great Falls, Mont.	12	11	6.5	12.5
Helena, Mont.	12	11	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida.	13.6	12.6	6.5	16.5
Twin Falls, Ida.	14.6	13.6	6.5	17
Albuquerque, N. M.	10.5	9.5	*7	9.5
Roswell, N. M.	10	9	*7	7
Santa Fe, N. M.	10.5	9.5	*7.5	10
Ft. Smith, Ark.	9	6.25	*7	8
Texarkana, Ark.	9	7.5	*5.5	7
Muskogee, Okla.	7.75	6.75	7	8
Oklahoma City, Okla.	8	7	7	8
Tulsa, Okla.	8	7	7	8

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c, Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla., 5.5c state applies within city limits of Ft. Smith, Ark.

†To Consumers & Dealers.

NOTE: Current selling price—where this is lower than maximum price it is because of local competition. It is the actual selling price and is subject to revision due to delays in receiving information from the field.

S. O. NEB.

(*Regular Grade*)	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	11.4	9.6	6.5	10.1
McCook	12.0	10.1	6.5	10.5
Norfolk	11.9	10.4	6.5	10.6
North Platte	12.2	10.6	6.5	11
Scottsbluff	12.9	10.2	6.5	10.5

S. O. CAL.

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Posted Retail	Flight Posted Net Tank Truck	Flight Posted Retail	Gasoline Taxes
San Francisco, Cal.	10	14	9	12	4.5
Los Angeles, Cal.	9.5	13.5	8.5	11.5	4.5
Fresno, Cal.	11	15	10	13	4.5
Phoenix, Ariz.	12	16	10	13	6.5
Reno, Nev.	12	16	11	14	5.5
Portland, Ore.	10.5	14.5	9.5	12.5	6.5
Seattle, Wash.	10.5	14.5	9.5	12.5	6.5
Spokane, Wash.	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash.	10.5	14.5	9.5	12.5	6.5

Std. Aviation 73

	Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal.	12.5	4.5	11.5
Los Angeles, Cal.	12	4.5	10
Fresno, Cal.	13.5	4.5	12.5
Phoenix, Ariz.	14.5	6.5	12.5
Reno, Nev.	14.5	5.5	13.5
Portland, Ore.	13	6.5	13.8
Seattle, Wash.	13	6.5	13.8
Spokane, Wash.	16	6.5	16.8
Tacoma, Wash.	13	6.5	13.8

Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.

Commercial: Retail deliveries, and/or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

TEXAS CO.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	7.5	6.5	5.5
Ft. Worth, Tex.	7.5	6.5	5.5
Wichita Falls, Tex.	8.5	7.5	5.5
Amarillo, Tex.	8.5	7.5	5.5
Tyler, Tex.	8.5	7.5	5.5
El Paso, Tex.	11	10.5	5.5
San Angelo, Tex.	8.5	7.5	5.5
Waco, Tex.	8.5*	7*	5.5
Austin, Tex.	8.5	7.5	5.5
Houston, Tex.	8.5	7.5	5.5
San Antonio, Tex.	8.5	7.5	5.5
Port Arthur, Tex.	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

(Continued on next page)

Tank Wagon Prices—Continued

S. O. IND.

	Red Crown Blue Crown Red Dealer Prices		(Regular Grade) (Third Grade)		
	Crown Cons. T.W.	Red Crown	Blue Crown	Gaso-line Taxes	Kero-sine T.W.
Chicago, Ill.	11.6	9.6	9.1	4.5	10.6
Decatur, Ill.	11.6	9.6	8.7	4.5	10.3
Joliet, Ill.	11.9	10.3	9.2	4.5	10.6
Peoria, Ill.	11.7	9.9	9.7	4.5	10.4
Indianapolis, Ind.	11.6	10.1	9.6	5.5	10.1
Evansville, Ind.	11.4	9.9	8.6	5.5	9.9
South Bend, Ind.	12	10.5	10	5.5	10.5
Detroit, Mich.	11.4	9.9	9.4	4.5	10
Grand Rapids, Mich.	11.4	9.9	9.4	4.5	9.9
Saginaw, Mich.	11.4	9.9	9.4	4.5	9.9
Green Bay, Wis.	12.2	10.7	10.2	5.5	10.9
Milwaukee, Wis.	12.1	10.6	10.1	5.5	10.8
La Crosse, Wis.	11.9	10.4	9.9	5.5	10.6
Minneapolis - St. Paul	11.9	10.4	9.9	5.5	10.6
Duluth, Minn.	12.2	10.7	10.2	5.5	10.9
Mankato, Minn.	11.9	10.4	9.9	5.5	10.6
Des Moines, Ia.	11.4	9.9	9.4	4.5	*10.1
Mason City, Ia.	11.7	10.2	9.7	4.5	*10.4
St. Louis, Mo.	11.0	9.5	9.3	*4.5	10.1
Kansas City, Mo.	11.0	9.5	8.6	*4.5	9.7
St. Joseph, Mo.	11.2	9.7	9.2	*4.5	9.9
Fargo, N. D.	12.9	11.4	10.9	5.5	11.6
Huron, S. D.	12.3	10.8	10.3	5.5	11
Wichita, Kans.	10.3	8.8	7.2	4.5	9.0

Stanavo Aviation 73 Octane
Withdrawn Jan. 1, 1944.

	Oleum Spirits	V.M.&P. Naphtha	Stani-sol	*Taxes
(Prices are base prices before discounts)				
Chicago	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo.	13.3	14.3	13.8	1.5
St. Louis, Mo.	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minneap'ls	14.2	15.2	13.5	5.5

Fuel Oils T.W.
Chicago

	Standard Heater Oil
1-99 gals.	9.3
100-149 gals.	8.3
150 gals. & over	7.8

	Stanolex Furnace Oil
1-99 gals.	8.8
100-149 gals.	7.8
150-399 gals.	7.8
400 gals. & over	7.3

	Stanolex Fuel A
1-749 gals.	6.5
750 gals. & over	5.75

	Stanolex Fuel C
1-749 gals.	6.0
750 gals. & over	5.25

Other Points	Stanolex Furnace Oil
Indianapolis	
1-99 gals.	9.0
100 gals. & over	8.0
Detroit	
1-99 gals.	8.7
100 gals. & over	7.7
Milwaukee	
1-99 gals.	9.0
100 gals. & over	8.0
Minneapolis	
1-99 gals.	9.1
100 gals. & over	8.1
St. Louis	
1-99 gals.	8.4
100 gals. & over	7.4
Kansas City	
1-99 gals.	8.1
100 gals. & over	7.1

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph and St. Louis, 1c. Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

State sales, occupation, consumer and use taxes to be added when applicable.

HUMBLE OIL

	Humble Thriftane *Tank Wagon	Humble Re-tail	Thriftane *Tank Wagon	Thriftane Re-tail	Gaso-line Taxes
	Humble Motor Fuel (Regular Grade)		(Third Grade)		
Dallas, Tex.	7.5	10.5	6.5	10.5	5.5
Ft. Worth, Tex.	6.5	9.5	6	7.5	5.5
Houston, Tex.	8.5	12.5	7.5	10.5	5.5
San Ant., Tex.	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Retail
Dallas, Tex.	7	10
Ft. Worth, Tex.	7	11
Houston, Tex.	8	11
San Antonio, Tex.	7	10

*To all classes of dealers & consumers

S. O. OHIO

	*Sohio X-70 Gasoline (Regular Grade) Consumer T.W.	**Re-sellers	‡S.S.	Gaso-line Taxes	†Kero-sine T.W.
Ohio, Statewide	12	10	13.5	5.5	9.3
Akron	12	9.5	12.5	5.5	9.3
Canton	12	9.5	12.5	5.5	9.3
Cincinnati	12	9.5	12.5	5.5	9.3
Cleveland	12	9.5	12.5	5.5	9.3
Columbus	12	9.5	12.5	5.5	9.3
Dayton	12	9.5	12.5	5.5	9.3
Lima	12	9.5	12.5	5.5	9.3
Mansfield	12	9.5	12.5	5.5	9.3
Marion	12	9.0	12.0	5.5	9.3
Portsmouth	12	9.5	12.5	5.5	9.3
Toledo	12	9.5	12.5	5.5	9.3
Youngstown	12	9.5	12.5	5.5	9.3
Zanesville	12	9.5	12.5	5.5	9.3

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio Aviation Gasoline clear Spec. AN-F-22	14.5	5.5
Esso Ethyl Aviation 73 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 87 Oct.	17.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

	†Naphtha—T.W. Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8.3	8.3	7.8	*7.55

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

*For Cleveland area only. Full compartment hose dumps.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price, 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

Canada

PRICES OF IMPERIAL OIL, LTD.
Per Imperial Gallon, which is 1.2 U. S. Gallons

IMPERIAL OIL

	3-Star Imperial Gasoline (Regular Grade) †Gasoline T.W.	*Gasoline Taxes	Kero-sine T.W.
Hamilton, Ont.	17.5	11	18
Toronto, Ont.	17.5	11	18
Brandon, Man.	21	10	23
Winnipeg, Man.	20.5	10	22.5
Regina, Sask.	18	10	20
Saskatoon, Sask.	20.8	10	22.8
Edmonton, Alta.	18.9	10	20.9
Calgary, Alta.	16	10	18
Vancouver, B. C.	15	10	24
Montreal, Que.	17	11	17.5
St. John, N. B.	16.5	13	19
Halifax, N. S.	16.5	13	19

*Includes 3c Federal, and Provincial taxes.

To divided & undivided dealers.
Absorption Gasoline—No. 26 R.V.P.—$2.28

ATLANTIC REFINING

	Atlantic White Flash (Regular Grade) Commercial T.W.	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
Philadelphia, Pa.	10.2	10.7	5.5	12.25
Pittsburgh	10.1	10.6	5.5	12.1
Allentown	10.7	11.2	5.5	12.6
Erie	10.7	11.2	5.5	12.6
Scranton	10.7	11.2	5.5	12.6
Altoona	10.7	11.2	5.5	12.6
Emporium	10.1	10.6	5.5	12.1
Indiana	10.7	11.2	5.5	12.6
Uniontown	10.1	10.6	5.5	12.1
Harrisburg	10.7	11.2	5.5	12.6
Williamsport	10.7	11.2	5.5	12.6
Dover, Del.	....	11.2	5.5	12.6
Wilmington, Del.	....	10.7	5.5	12.1
Boston, Mass.	....	10.9	4.5	....
Springfield, Mass.	....	11.8	4.5	....
Worcester, Mass.	....	11.5	4.5	....
Fall River, Mass.	....	11	4.5	....
Hartford, Conn.	....	11.6	4.5	....
New Haven, Conn	....	11	4.5	....
Providence, R. I.	....	11	4.5	....
Atlantic City, N. J.	....	10.7	4.5	10
Camden, N. J.	....	10.7	4.5	10
Trenton, N. J.	....	10.7	4.5	10
Annapolis, Md.	....	11.05	5.5	10.8
Baltimore, Md.	....	10.45	5.5	9.8
Hagerstown, Md.	....	11.55	5.5	10.3
Richmond, Va.	....	11.25	6.5	12.3
Wilmington, N. C.	....	11.15	7.5	11.6
Brunswick, Ga.	....	10.1	7.5	10.6
Jacksonville, Fla.	....	10.1	8.5	11.6

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa.	11	12.5
Lancaster, Pa.	12	13.5
Pittsburgh, Pa.	12.5	13.5

	Fuel Oils—T.W. 1	2	3	5	6*
Phila., Pa.	10.1	9	9	5.76	5.04*
Allentown, Pa.	10.6	9.3	9.3	....	....
Wilmington, Del.	10.1	9	9	....	....
Springfield, Mass.	10.2	9.4	9.4	....	....
Worcester, Mass.	10.2	9.3	9.3	....	....
Hartford, Conn.	10.5	9.2	9.2	....	....

‡Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w. except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

*Residual fuel 13.0-15.9 gravity effective 10/17/43.

S. O. KY.

	Crown Gasoline (Regular) Standard (Third Grade) †Net Crown	Gaso-line Taxes	Kero-sine T.W.
Covington, Ky.	9.5	6.5	9.3
Lexington, Ky.	10.5	6.5	9.3
Louisville, Ky.	10	6.5	8.8
Paducah, Ky.	10	6.5	8.8
Jackson, Miss.	10	7.5	*9
Vicksburg, Miss.	9.5	7.5	*8.5
Birmingham, Ala.	10	*8.5	9
Mobile, Ala.	9	*9.5	8.5
Montgomery, Ala.	10	*9.5	*10
Atlanta, Ga.	11.4	7.5	*12.1
Augusta, Ga.	11.4	7.5	*11.6
Macon, Ga.	11.4	7.5	*12.1
Savannah, Ga.	10.4	7.5	*11.1
Jacksonville, Fla.	10.4	8.5	10.1
Miami, Fla.	10.4	8.5	10.1
Pensacola, Fla.	9	*9.5	8
Tampa, Fla.	10.4	8.5	10.1

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. LA

	Esso Gasoline (Regular Grade) Consumer Tank Wagon	Dealer T.W.	Gaso-line Taxes	Kero-sine T.W.
New Orleans, La.	8.75	9.25	8.5	*9
Baton Rouge, La.	8.75	9.25	8.5	*9.5
Alexandria, La.	8.75	9.25	8.5	*9.5
Lafayette, La.	9	9.5	8.5	*9
Lake Charles, La.	9	9.5	8.5	*11
Shreveport, La.	8.5	9	8.5	*8
Knoxville, Tenn.	10.5	11	8.5	12.5
Memphis, Tenn.	8.90	9.40	8.5	10.5
Chattanooga, Tenn.	10.5	11	8.5	11
Nashville, Tenn.	10.5	11	8.5	10
Bristol, Tenn.	10.95	11.45	8.5	13.1
Little Rock, Ark.	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.

Discounts:

Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

(Continued on next page)

Seaboard Export Coastwise Prices

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices in Effect Sept. 18.

Pacific Export

In Ship's Bunkers, or deep tank lots:

Prices in Effect	Sept. 18	Sept. 11
Diesel Fuel, Pac. Spec. 200	$1.45	$1.45
Grade C fuel, Pac. Spec. 400	$1.10	$1.10

District	MOTOR GASOLINE 72 Oct. (ASTM)	70-74 oct. (ASTM)	KEROSINE and/or NO. 1 FUEL	FUEL OILS No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	Not made	9.075	7.1	6.7	6.7	$1.85	$1.77
N. Y. Harb., barges	"	8.975	7	6.6	6.6	....	....
Albany	"	9.175	7.3	6.8	6.8 (2)	....	$1.97 (1)
Philadelphia	"	9.075	7.2	6.7	6.7	$1.98	$1.77
Baltimore	"	8.825	7.2	6.7	6.7	$1.85 (1)	$1.77
Norfolk	"	8.575	7.1	6.7	6.7 (1)	$1.85 (1)	$1.77
Wilmington, N. C.	"	8.175– 8.225	6.75	6.4	....	....	....
Charleston	"	8.175– 8.275	6.95	6.4 (2)	....	$1.80 (1)	$1.72 (2)
Savannah	"	7.845	6.55	5.75	....	....	$1.72 (1)
Jacksonville	"	7.845	6.55	5.75	....	....	$1.72
Miami	"	7.845(2)	6.55	5.75 (1)	....	....	....
Tampa	"	7.845– 7.85	6.55	5.75	....	....	$1.62
Pensacola	"	....	4.8 (1)	....	....	....	....
Mobile	"	6.745(2)	4.75 (2)	....	....	....	....
New Orleans	"	6.125-6.375(2)	4.25 – 4.75	3.75 (2)	....	$1.27 (1)	$0.97
Portland	"	9.375	7.3	6.8	6.8 (2)	....	$1.77
Boston	"	9.275	7.2	6.7	6.7 (2)	$1.95 (2&b)	$1.77
Providence	"	9.275	7.2	6.7	6.7 (2)	$1.90 (1)	$1.77

NOTE: To conform with Article IV of MPR 88 as amended Aug. 15 we are substituting 70-74 oct. ASTM for the old 72-74 oct. ASTM. We continue to include in this group, Housebrand quotations.

Tank Wagon Prices (Continued)

SOCONY VACUUM

	Soconv Mobilgas (*Regular Grade*) Com. Cons. T.W.	Undiv. Dlr. T.W.	Gasoline Taxes
New York City			
Manhattan & Bronx	10.1	10.6	*5.5
Kings & Queens	10.1	10.6	*5.5
Richmond	9.7	10.2	*5.5
Albany, N. Y.	9.9	10.4	5.5
Binghamton, N. Y.	11	11.5	5.5
Buffalo	9.6(a)	10.1(a)	5.5
Jamestown, N. Y.	9.8(a)	10.3(a)	5.5
Mt. Vernon, N. Y.	10.1	10.6	5.5
Plattsburg, N. Y.	11	11.5	5.5
Rochester, N. Y.	10.8	11.3	5.5
Syracuse, N. Y.	10.5	11	5.5
Bridgeport, Conn.	10	10.5	4.5
Danbury, Conn.	10.5	11	4.5
Hartford, Conn.	10.6	11.1	4.5
New Haven, Conn.	10	10.5	4.5
Bangor, Me.	10.7	11.2	5.5
Portland, Me.	10.3	10.8	5.5
Boston, Mass.	9.9	10.4	4.5
Concord, N. H.	11.4	11.9	5.5
Lancaster, N. H.	12	12.5	5.5
Manchester, N. H.	11.3	11.8	5.5
Providence, R. I.	10	10.5	4.5
Burlington, Vt.	10.9	11.4	5.5
Rutland, Vt.	11	11.5	5.5

(a) Effective Sept. 1, 1944.

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y.	12.4	13.6
New York City	11	12
Rochester, N. Y.	13.2	14.4
Syracuse, N. Y.	14	....
Boston, Mass.	12	13
Bridgeport, Conn.	†16.3	†17.3
Hartford, Conn.	†16.3	†17.3
Providence, R. I.	13	14

	Kerosine Yard	Kerosine T.W.	Mobilfuel Diesel T.C.	Mobilfuel Diesel T.W	Mobilheat Fuel Yard	Mobilheat Fuel T.W.
New York:						
Manhat'n & Bronx	7.5	10.3	...	9.3	7.1	9
Kings & Queens	7.5	10.3	...	9.3	7.1	9
Richmond	7.5	10.3	...	...	7.1	9.0
Albany	7.5	9.8	6.8	9.3	7	9
Binghamton	8.9	11.2	...	10.7	8.4	10.2
Buffalo††	8.1	10.4	7.5	9.8	7.7	9.5
Jamestown	8.2	10.5	7.8	10.1	7.8	9.5
Mt. Vernon	7.6	10.3	...	9.4	7.2	9
Plattsburg	8.1	10.4	...	9.9	7.6	9.4
Rochester	8.7	11	7.9	10.2	7.9	9.7
Syracuse	8.5	10.8	7.8	10.1	7.8	9.6
Conn.:						
Bridgeport	7.8	10.3	...	....	7.4	9.0
Danbury	8.2	10.8	...	....	7.8	8.5
Hartford	8.0	10.5	...	9.5	7.4	9.2
New Haven	7.5	10.3	...	9.3	7.1	9.0
Maine:						
Bangor	7.9	10.2	7.4	9.7	7.4	9.1
Portland	7.5	10.2	6.8	9.3	7	9
Mass.:						
Boston	7.8	10.6	6.7	9.2	7.1	9
N. H.:						
Concord	8.4	10.7	...	....	8.2	10
Lancaster	9.5	11.8	...	....	9.2	11
Manchester	8.5	11.1	...	....	7.9	9.7
R. I.:						
Providence	7.8	10.1	6.7	9.2	7.1	9.0
Vermont:						
Burlington	8.1	10.4	7.5	9.8	7.5	9.2
Rutland	8.3	10.6	...	10	7.7	9.5

*Does not include 1% city sales tax applicable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

††New prices effective Sept. 1, 1944.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.77	$2.78	6.7–6.8 (2)	6.8 (2)
Albany	$1.97 (1)	$2.98 (1)	7 (1)	7 (1)
Philadelphia	$1.77	$2.78	....	....
Baltimore	$1.77	$2.78	6.7 (1)	6.7 (1)
Norfolk	$1.77	$2.78	6.7 (1)	6.7 (1)
Charleston	$1.72 (2)	$2.78 (2)	6.7 (1)	6.7 (1)
Savannah	$1.72 (1)	$2.62 (1)	....	....
Jacksonville	$1.72	$2.62 (2)	....	....
Tampa	$1.62	$2.62	....	....
New Orleans	$0.97	$1.65 (1)	4 (1)	....
Portland	$1.77	$2.86 (2)	7 (1)	6.9 (1)
Boston	$1.77	$2.78	6.7 (2)	6.8 (2)
Providence	$1.77	$2.78 (2)	6.9 (1)	6.8 (1)

Residual fuel prices generally vary with A.P.I. specifications from range low for 9.9 & below degrees to range high for 25.0 & above.

Bunker "C" when from Navy storage at New York and Norfolk to W.S.A. ships .05c discount.

Gulf Coast

Prices in Effect Sept. 18

MOTOR GASOLINE	New Orleans & Lower Mississippi to Baton Rouge Tank Cars	New Orleans & Lower Mississippi to Baton Rouge Barges	Texas Gulf Coast South of New Orleans Tank Cars	Texas Gulf Coast South of New Orleans Barges	CARGOES Domestic & Export From all Gulf Ports
Leaded (oct. by ASTM)					
76 oct.	6.75	6.5	6.5 – 6.75	6.75	6.75
70-74 oct.	6 – 6.25	5.625	5.625–6.375 (a)	5.625	5.625– 5.75
63-65 oct.	....	....	....	....	....
Unleaded 70 oct.	....	....	....	....	5.75
67-68 oct.	....	....	....	....	5.5
65 oct.	....	....	....	....	5.25
60 oct.	....	....	....	....	5
KEROSINE & LIGHT FUELS					
41-43 w.w. kero.	4.125– 4.25	4.125	4.125– 4.25	4.125	4.125
42-44 w.w. kero.	....	....	4.125	4.125	4.125
No. 2 fuel oil.	3.75	3.75	3.75 – 4	3.75	3.75
DIESEL & GAS OILS					
(In diesel index No.)					
Below 43 di.	....	....	....	....	....
43-47 di.	....	....	....	....	4
48-52 di.	4	4	4	....	4
53-57 di.	4.125	....	4.125	4.125	4.125
58 and above	4.25	....	4.25	....	4.25

(a) 5.625c for Dist. 1 and 5.875–6.375c for other districts.

NOTE: Above products in Truck Transports of 2,400 gal. and over ½c above Tank Car Prices.

Heavy Fuels & Bunker Oil (at all Gulf Ports) Heavy Diesels	In Cargoes	In Ship's Bunkers (Ex Lighterage)
Below 28 API Grav.	....	$1.35
28 & above API Grav.	....	$1.65
Bunker C Oil	$0.97	$0.97

NOTE—Prices for heavy fuels vary within the range given above according to gravity from range low 9.9B gravity to range high 25B and above.

Mid-Continent Lubes

(At Gulf; in packages, FAS.; in bulk, FOB terminals).

Prices in Effect Sept. 18

	Steel Drums	Bulk
Bright Stock		
D color, Vis at 210°		
200 vis.	....	....
150 vis., 0-10 p.p.	....	32.65(1&A)
100 vis., 0-10 p.p.	....	....
100 vis., 10-25 p.p.	....	....
Neutral—No. 3 color		
200 vis., 0-10 p.p.	....	....

(A) FAS at New Orleans.

Wax

(Melting points are AMP, 3° higher than EMP. Prices are FOB refinery and do not include bag, freight or export differentials).

Prices in Effect Sept. 18

Crude Scale	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	4.25(1)	....	4.25(1)
122-4 White	....	4.25(2)	4.25(2)
124-6 White	4.25(1)	4.25	4.25
Fully Refined:			
123-5	5.2(1)	5.2(2)	5.2(1)
125-7	5.2(1)	5.2(2)	5.2(1)
128-30	5.6(1)	5.6	5.6(1)
130-32	5.85(1)	5.85(2)	5.85(1)
133-5	6.15(1)	6.15	6.15(1)
135-7	6.4(1)	6.4(1)	6.4(1)

Naphtha

Prices in Effect Sept. 18

	V.M.&P. Naphtha	Mineral Spirits
New York Harbor	11 (2)	10
Philadelphia	11 (2)	10
Baltimore	10.5 (2)	9.5
Boston	11.5 (2)	10.5
Providence	11.5 (1)	10.5 (2)

CLASSIFIED

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FOR SALE: One GMC 1933 truck with 1939 motor installed, four-compartment, 800 gallon Heil skirted tank, pump, meter, printer, reel and hose. Price $1000.00. One four-compartment 1510 gallon skirted Quaker City Tank with four side cabinets. Price $700.00. Box No. 453.

GREASE AND LUBRICATING OIL PLANT making real money, established business many years. Will sell my controlling interest. Require about $35,000 cash to handle. A real opportunity. No debts. Selling account of bad health. Reply—904 World Bldg., Tulsa 3, Okla.

TANK CARS
10—7600 Gal. Cap. Class 2, Coiled
10—8100 Gal. Cap. Class 2, Coiled
5—8000 Gal. Cap. Class IV enamel lined.

CAR PULLER
20 H. P. Clyde 3/60/220 Volt

R. C. Stanhope, Inc.,
60 East 42nd St., New York 17, N. Y.

FOR SALE
Used Valves, Fittings and Pipe 1 inch to 4 inch. A-1 condition. Immediate delivery.
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8—25,000 GAL. CAP. TANKS
8—10 Ft. 6 In. Dia. x 40 Ft. long Horiz. cyl. ⅜ In. thick, riveted Steel Storage Tanks, 25,000 Gal. Cap.
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WANTED BULK PLANT
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Box No. 452

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ABOUT OIL PEOPLE

Dr. Robert Emmett Burk, has joined the plastics department of E. I. du Pont de Nemours & Co., as special assistant to the department's chemical director.

Dr. Burk before joining du Pont was director of research for the Standard Oil Co. (Ohio) and is author and editor of books and treatises on polymerization. He is chairman of the committee on catalysis of the National Research Council and vice chairman of the petroleum section of the American Chemical Society.

Dr. Burk, 42, was born in Louisville, Ky. He holds degrees from Cornell, Harvard and Oxford, the latter as a Rhodes scholar. He is a lieutenant commander in the U. S. Naval Reserve, and is a member of the American Assn. for the Advancement of Science. He belongs to Tau Beta Pi, Sigma Chi and Kappa Sigma fraternities.

* * *

Wells Ely, executive in the gas distributing operating department of Arkansas Natural Gas Corp., was recently installed as chef de guerre or president of Voiture No. 137, 40 and 8 Club, Shreveport, La. He was formerly chef de train, or vice president, and has also been guarde le porte, commissioner voyageur and conducteur, all appointive posts.

* * *

O. W. Timberman has purchased a half interest in the Southland Oil Co., Tucson, Ariz., and assumed the office of vice president and treasurer of that independent jobbing organization.

Mr. Timberman has been the company's general manager for the past four years, in which capacity he will continue in addition to his new duties.

* * *

J. E. Regent, formerly in the Dallas headquarters of Sun Oil Co., has been transferred to Midland, Texas, where he will be West Texas-New Mexico manager for the company. **Dudley Cardwell** will also be sent to the Midland office as district geologist.

* * *

H. J. Dunmire has succeeded **C. W. Luton** as manager of the Valvoline Oil company's refinery at Butler, Pa., **G. R. Doll,** Valvoline's president, recently announced. Mr. Luton retired recently.

Mr. Dunmire has been manager of the bulk sales department at Butler since 1934. He spent several years in the research and development department of Standard Oil Co. of New Jersey before going to Warren, Pa., as superintendent of Valvoline's refinery there.

* * *

The Swann-Finch Oil Corp., New York, announced last week that **Benjamin C. Price** had been made a director of the company. Mr. Price, with Swann-Finch for 35 years, was general manager of plants.

At the Wagon Wheel Well

Robert E. Allen, New York, Director of Public Relations of the American Petroleum Institute, pays a visit to the Venango Development Corp. horizontal oil well project at Two Mile Run, near Franklin, Pa. On the right is Leo Ranney, technical advisor on the operation, inventor of the horizontal well method.

Mr. Ranney announces that Ranneywells, a division of Engineers, Ltd., San Francisco, now is handling horizontal well contracts in this part of the country. Alfred B. Swinerton, who is said to hold the world record in building pipeline, of 350 miles of 10-in. line in 70 days, is managing director and Mr. Ranney is director of operations.

* * *

Lloyd G. Owen, vice president and general counsel of Carter Oil Co., retired Sept. 11, after 24 years of service. **Forrest M. Darrough** has been named general counsel and a director of the company.

Widely known in the oil industry and legal profession, Mr. Owen came to Oklahoma in 1909 following his graduation from Ohio State university. In 1912 he became an associate of **James A. Veasey** in Bartlesville, who in 1915 became general counsel of Carter in Tulsa, and Mr. Owen followed him a few months later and became his assistant. He resigned in 1919 to enter general practice but returned to the company in 1924. In 1938 he was made general counsel when Mr. Veasey retired.

Mr. Darrough joined Carter in 1930, having previously been associated with a law firm in Holdenville, Okla., for six years. He became assistant general counsel in 1938. He was graduated from the University of Oklahoma in 1923.

* * *

W. A. Parker, North Carolina Oil Jobbers Assn. secretary, reported on Sept. 12 that he must spend some time in a hospital for an operation. But before leaving he "went to press" with N.C.O.J.A.'s bulletin containing a lot of good jobber reading matter.

* * *

Three new oil men members have been elected by the Controllers Institute of America. They are: **John McFarland,** manager of the tax department, Sun Oil; **William H. Garbade,** assistant treasurer of Shell; and **William A. Jackson,** assistant comptroller of the Standard Oil Co. (N. J.).

* * *

W. E. Kipper, who joined Standard Oil Co. of Indiana in 1923 as a tank wagon driver, has been promoted to assistant manager (wholesale) at Kansas City, Missouri, to succeed the late N. M. Dawson. **F. M. Le Valley** will replace Mr. Kipper as sales manager (reseller) of the Peoria, Illinois sales division of Standard. Mr. Le Valley joined Standard in 1924 as a service station attendant in Chicago.

* * *

Mr. Smith

Mr. Rowell

Appointment of **Francis H. Smith** as an assistant general manager of Standard of California's manufacturing department has been announced by **George A. Davidson,** vice president of the oil company. Mr. Smith has been manager of Standard's Richmond refinery.

The new Richmond manager will be **Richard K. Rowell,** who has been manager of the company's El Segundo refinery. Mr. Rowell will be succeeded there by **W. W. Davison.**

Mr. Smith, for many years a leader in Richmond civic affairs, became refinery manager in 1934. He started with Standard in 1913. Mr. Rowell came to Standard in 1917.

YESTERDAY . . . pumps with amazing performance-records

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Review the Past—

OIL CREEK, Titusville, Pa.—The 85th anniversary of the discovery of oil by Col. Edwin L. Drake and his driller, Billy Smith, is being celebrated here. The Drake Well Memorial Park, museum and monument is the oil man's lasting tribute to those pioneers who on August 27, 1859, drilled the first oil well.

—News Item

Preview the Future

LOOKING back over the years since oil was "discovered" in 1859, Fleet-Wing Corporation takes justifiable pride in the fact that for all but ten of the industry's 85 years our parent company has been engaged in the refining and marketing of petroleum products.

Looking to the future and "previewing" the postwar opportunities which a Fleet-Wing franchise affords, many prominent jobbers are turning to Fleet-Wing for exclusive territory assignments.

This swing to Fleet-Wing acknowledges that there is no division of interests between the Independent Jobber and Fleet-Wing. In our postwar planning the Independent Oil Jobber and Fleet-Wing will continue to be a winning partnership. That is the reason we have no hesitancy in inviting forward-looking, progressive jobbers to talk with us NOW about a Fleet-Wing jobbership.

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